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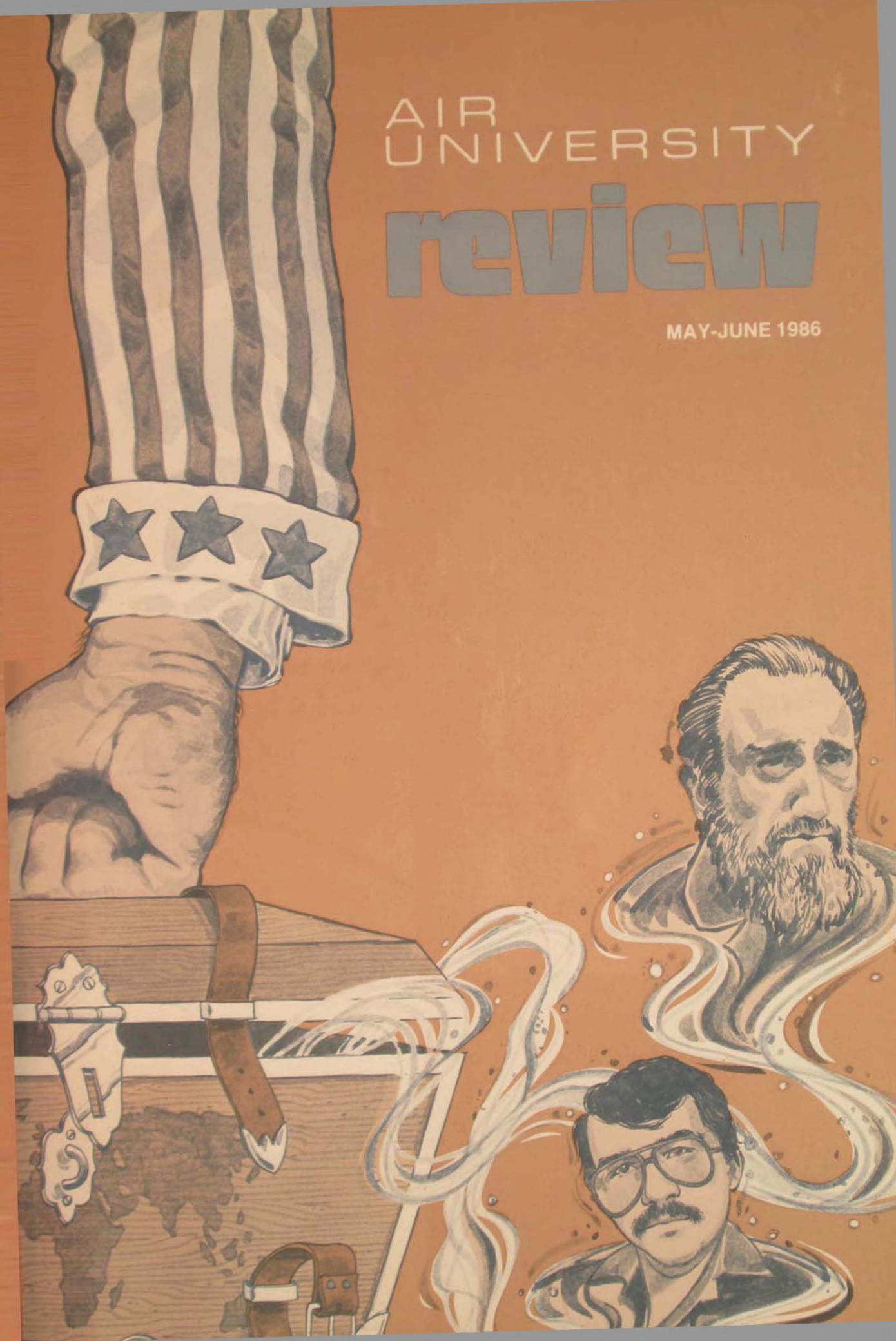

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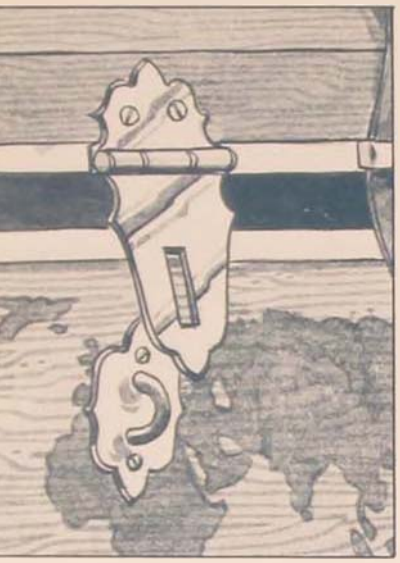
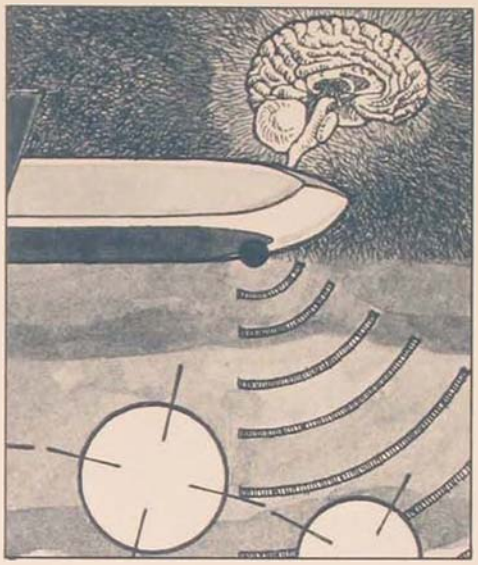


d security—panacea or Pando-
ox?—*page 2*



Will the high technologies change the basic concept of deterrence?—*page 28*

Synchronizing AirLand warfar
forces—*page 60*

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SELECTIVE INVOLVEMENT AND STRATEGIC MOBILITY

changing strategy, changing emphasis

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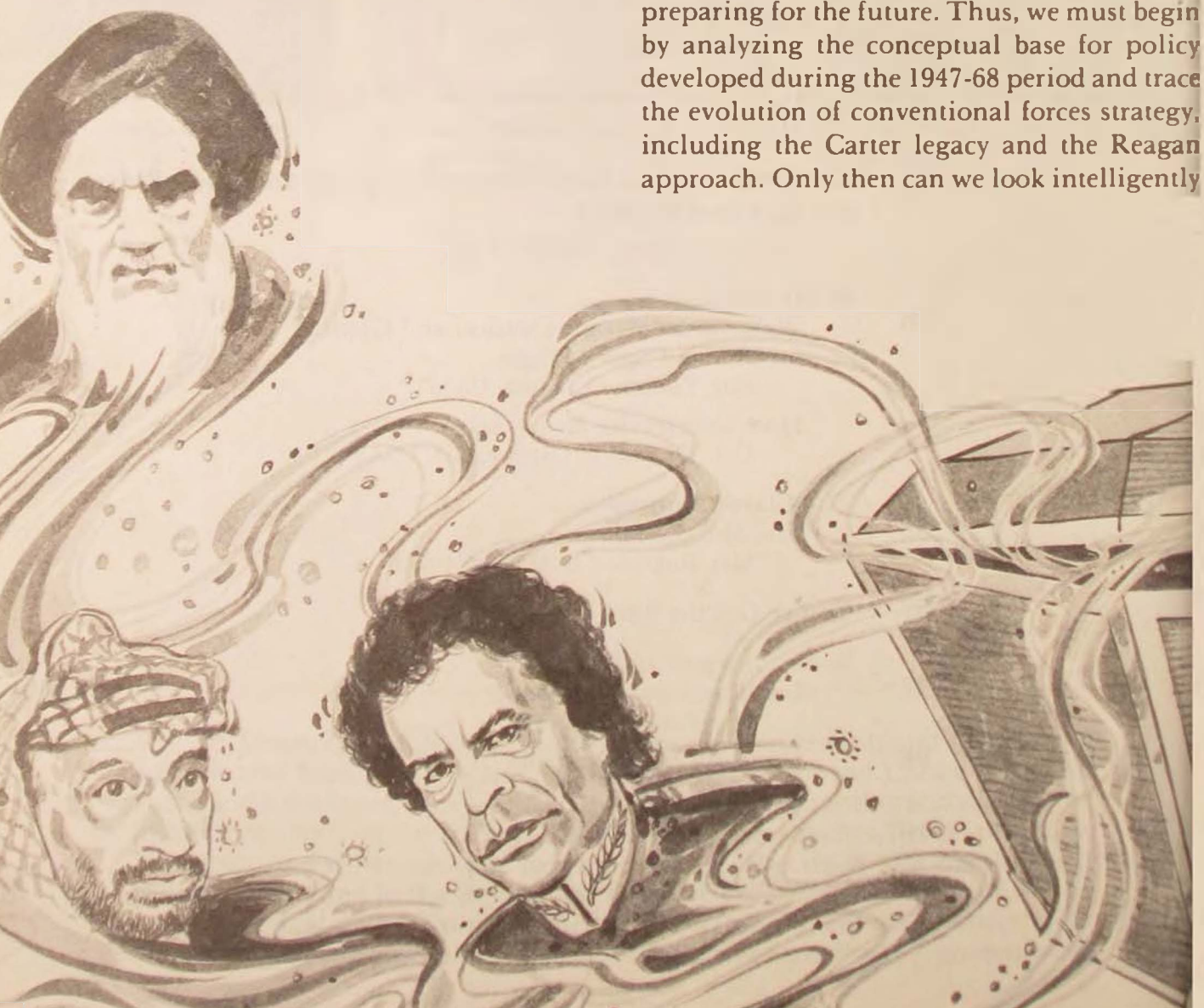
BECAUSE the United States confronts a world in which threats to its interests are increasing in both severity and scope, U.S. planners are reconsidering the national strategy and tactics for dealing with those threats. There are important reasons for changing to a strategy of selective involvement.[1] To implement this strategy against a growing proliferation of threats, U.S. tactics and force structure require some changes. Reduced forward deployments and increased strategic mobility are some of those changes.

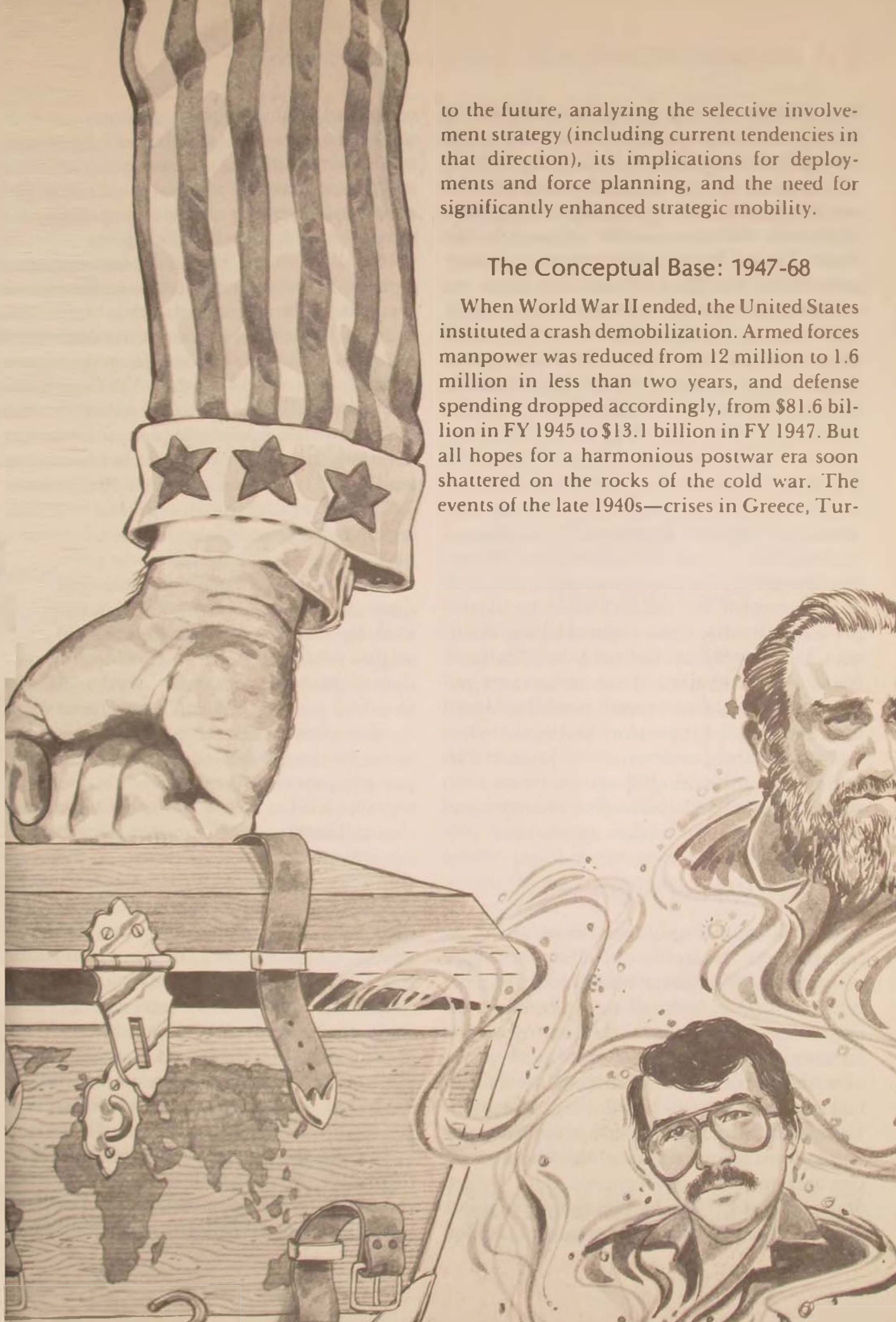
As always, we must understand how things came to be what they are before we can reasonably argue about how the nation should be preparing for the future. Thus, we must begin by analyzing the conceptual base for policy developed during the 1947-68 period and trace the evolution of conventional forces strategy, including the Carter legacy and the Reagan approach. Only then can we look intelligently



to the future, analyzing the selective involvement strategy (including current tendencies in that direction), its implications for deployments and force planning, and the need for significantly enhanced strategic mobility.

The Conceptual Base: 1947-68

When World War II ended, the United States instituted a crash demobilization. Armed forces manpower was reduced from 12 million to 1.6 million in less than two years, and defense spending dropped accordingly, from $81.6 billion in FY 1945 to $13.1 billion in FY 1947. But all hopes for a harmonious postwar era soon shattered on the rocks of the cold war. The events of the late 1940s—crises in Greece, Tur-



key, and Iran; the tightening of Soviet control of Eastern Europe; the Czech coup; the Berlin blockade; and the "fall of China"—convinced Washington that it was faced with a ruthless and implacable foe, an inherently aggressive monolithic Communist bloc directed by the Soviet Union. Perceiving a major and imminent threat, the United States developed the containment concept. Appended to this concept were the "lessons" of the 1938 Munich Agreement and the "failure" of the League of Nations to stop the march of aggression in Manchuria, Ethiopia, Austria, and other countries in the 1930s. Meaning: unrestrained aggression inevitably leads to more aggression. The policy guidance underlying U.S. reactions consisted of essentially three moral abstract formulas: "oppose aggression, . . . oppose communism, . . . and defend freedom."[2] President Dwight D. Eisenhower made the principle of containment less abstract when he likened the loss of Indochina to a row of falling dominoes that would be followed by Thailand, Burma, and Indonesia if the action were not stopped.[3] This conceptual combination of formulas defined the enemy and stated when and where the battle must be joined. The enemy was any and all Communist nations, and the battle had to be fought whenever and wherever they committed an aggression.

How We Got Where We Are

Until the administration of President Nixon, containment and its domino theory corollary constituted the primary intellectual concepts underlying U.S. national security policy. To implement the guidance summed up in the formulas of oppose aggression, oppose communism, and defend freedom, the United States had undertaken major forward deployments in Europe and Asia and created a host of alliance obligations. Military strategy was based on the two and one-half-wars concept. The United States had to be able to fight major wars against both the Warsaw Pact in Europe and (Soviet-controlled) China in Asia, plus one-half of a war somewhere else, simultaneously. And it had to have sufficient options in both Europe and Asia so that the President could choose the nature and level of response appropriate to the particular contingency.

Initially, flexible response planners envisaged withholding major forces in the United States as a central strategic reserve.[4] Except for Europe, forward deployments would be minimized. In order to be able to deploy this strategic reserve (soon embodied in the Strike Command), strategic mobility was to be enhanced and, where possible, equipment prepositioned. Naval strength was to be enhanced to protect vital sea lines of communication (SLOCs).

Though conventional capabilities did increase in the Kennedy and Johnson years, they never came close to achieving the goals originally stipulated. Forward deployments remained, while strategic mobility lagged. Obviously, once Vietnam became the focal point, all bets were off, but there is considerable question about the degree to which forces sufficient to match the strategy would have been developed anyway. There always is some gap between minimum-risk requirements and what is actually provided, the difference being the acceptable level of risk. What usually get shortchanged in this gap are programs that the military services feel are not essential to their missions. Strategic mobility often has been such a program. When an Eisenhower budget crunch caused the Air Force to reduce its planned force structure by six wings, the Army was understandably dismayed when all six of the reductions were taken in troop carrier wings.[5] Similarly, the Kennedy administration never really produced the mobility force structure to implement flexible response as it was initially envisaged or to fight two and one-half wars simultaneously.

By 1969, the previous consensus on the nature of the threat and how to deal with it was shattered beyond repair by Vietnam. Additionally, the international environment in which

the Nixon administration had to operate was changing. The old bipolar power relationship was being replaced by multipolarity as new power centers developed; alliance systems were becoming less cohesive; and the Sino-Soviet split was recognized as deep and bitter with no reconciliation in sight.[6]

As Nixon and Kissinger assessed the threat in the context of this changing environment, they saw quite a different situation from that seen by any of their predecessors. The fundamental security objective—preventing Soviet expansion that would overturn the balance of power in any major area of the world—remained, but this was a Soviet Union without China; indeed, China was now a Soviet adversary.[7] The threat, therefore, had been reduced enormously. The most important means of enhancing American security was now political, not military, namely, normalizing relations with China. Of course, the Sino-Soviet split also had significant military implications because the two and one-half-wars concept had assumed Sino-Soviet cooperation. The United States was now able to shift to a one and one-half-wars strategy and only maintain conventional forces capable of simultaneously meeting an attack in either Europe or Asia and handling a lesser contingency elsewhere.

This strategy change permitted considerable reduction in conventional forces. So did the second arrow in Nixon's armory, the Nixon doctrine. Though the United States would "keep all its treaty commitments" and "provide a shield" against any nuclear power threatening one of its allies or any other national interest vital to our security, in most cases it would provide appropriate "assistance" when requested but would "look to the nation directly threatened to assume the primary responsibility of providing the manpower for its defense."[8] However, the redeployment of forces suggested by the Nixon doctrine and the subsequent reduction of foreign involvement did not signal either a retreat into isolationism or a sanguine view of the Soviets. Rather, it involved a different view of the division of military labor that should occur in light of the changed threat and the changing international environment.[9]

As the strategy changed and the United States withdrew from Vietnam, conventional forces and supporting elements were cut drastically. By 1974, the Navy had dropped to 495 combatant ships from its FY 1968 total of 976; Air Force squadrons had gone from 439 active flying squadrons in 1964 to 277 in 1977; and from 1969 to 1976, the Army went from 1,522,000 soldiers to 785,000, while the Marines decreased from 302,000 to 147,000.[10] As a partial counterbalance to these reductions, Washington increased significantly its economic and military aid to those allies who now were to man the front lines. Only in Europe was there no major drawdown.

The Carter Legacy

If Nixon, Kissinger, and Ford saw a different world than their predecessors, President Carter had yet another vision. In Carter's view, in the past, the United States had had an inordinate fear of communism. Although certainly Soviet-American relations were important, they did not constitute the only or even the dominant problem. Third World issues, economic matters, North-South cooperation, and, above all, human rights needed attention. In the national security arena, strategic arms control, not military strength, was the top priority. Although the Soviets had been engaged in a major across-the-board military buildup for several years, the upshot of PRM-10, the National Security Council's major study of global power relationships, was that things were not all that bad.

The result was that for the first two years of the Carter administration, conventional forces suffered—except for NATO deployments. Determined not to become entangled in another Vietnam, the administration evidenced

> de-emphasis of naval, amphibious assault, and other categories of conventional forces (including U.S. Army forces forward deployed in Asia)

dedicated primarily to potential contingencies beyond a NATO-Warsaw Pact confrontation.[11]

On the high seas by this time, the Soviets had surpassed the United States in numbers of attack submarines and surface combatants. Moreover, their rate of procurement was significantly higher. As they had been for years, Soviet ground forces were much larger; also, the Soviets maintained a sizable advantage in key weapon systems, their procurement rate was higher, and they were narrowing the technological gap. Only in TACAIR and aircraft carriers did the balance not appear to be shifting importantly. Nonetheless, U.S. forces in place seemed to be deterring Soviet expansion.

After the Iranian crisis and the Soviet invasion of Afghanistan began, a new Carter appeared. "Carter II" saw a major Soviet threat to American interests worldwide. The reforms begun earlier in NATO's long-term defense program now were pushed harder, and, in his final budget submission, the President asked for 5.3 percent real growth in obligational authority for FY 1982. The most spectacular Carter move was the creation of the Rapid Deployment Joint Task Force (RDJTF) in March 1980. After the Afghanistan invasion, in what became known as the Carter doctrine, the President officially committed the United States, for the first time, to the defense of the Persian Gulf. The RDJTF was established to provide the capability to implement that pledge. Oddly, though, there was no important increase in conventional force levels. The RDJTF would be formed from existing units, most of which already were deployed to, or earmarked for, Europe or Asia.

Where Then Are We?

The Reagan administration took a number of steps to reverse what it saw as a serious decline in U.S. capability. To begin with, there was a major conceptual turnaround, including the revival of some Eisenhower and Nixon concepts. The Reagan administration replaced the one-and one-half-wars concept, for it saw the Soviet threat as global. Consequently, the United States had to be prepared to fight globally on several fronts if necessary. Reassessing the 1950s and 1960s, the new administration agreed with Eisenhower, Kennedy, and Nixon that the primary goal must be to contain Soviet expansion. But the Reagan administration found that previous strategies depended far too much on American nuclear preeminence and the margin of military superiority gained by its decisive advantage in nuclear weaponry. In its view, the Soviet Union had expended extraordinary effort and become a military superpower. Since the Soviets can launch attacks on NATO, Southwest Asia, and the Pacific simultaneously, the United States must be able to respond simultaneously. Dealing with this shift in the U.S.-Soviet military balance required, first, a major revitalization of U.S. military forces and, second, a commensurate change in U.S. strategy.[12]

Like the early Eisenhower advisors, many in the first Reagan administration were attracted by the idea of going beyond just containing the borders of Soviet expansion to rolling them back. Not satisfied with a completely defensive strategy that surrenders all initiative to the Soviets, these advocates of rollback have traditionally wanted to mount their own ideological, economic, and paramilitary initiatives to regain lost ground. But also like the Eisenhower administration before it, the Reagan administration slowly realized that rollback was far too dangerous to be a real strategy in the world of nuclear-armed opponents. Early calls for rollback evolved into declaratory, ideological, and other support for the spread of democracy. Instead of rolling back the Soviets, Secretary of State George P. Shultz now calls for pride in the spread of democracy, noting the linkage between foreign assistance and U.S. national interests as well as the linkage between democracy and economic opportunity.[13] For President Reagan, the demonstrative effect of democracy is an eternal truth: "Freedom works."[14]

Early calls for geostrategic democratic offensives to capitalize on the crises of totalitarianism thus have matured into U.S. moral responsibility and support on a case-by-case basis.[15]

Secretary of Defense Caspar Weinberger now emphasizes continuity in foreign policy and defense strategy. Not only have U.S. basic interests remained remarkably constant, but so have the major tenets of defense (rather than offense) and deterrence (rather than warfighting). Secretary Weinberger has defined deterrence as follows:

> It means that we seek to protect our vital interests, not by aggression or war, but by preventing war. We seek to prevent war by persuading potential adversaries that the costs of attacking us will exceed any gain they could hope to achieve. This is the central idea of our defense strategy today—as it has been for most of the post-war period.[16]

Nonetheless, three additional strategic changes arose from seeing the Soviet threat as a global one. First is the concept of horizontal escalation. Once a Soviet attack takes place, the United States would not necessarily restrict its response to the immediate front or engage the Soviets on all fronts simultaneously. Instead, it might launch counterblows against the Soviet Union or its surrogates at other vulnerable points to take advantage of American strengths and Soviet weaknesses. Second, no longer will Europe automatically be viewed as the primary theater. Contrary to the speculation of some, this idea does not consider Europe *less* important. Instead, the importance of other theaters has been *upgraded*. Third, a war with the Soviets might be short, as previously thought, or it might not. Improving sustainability, therefore, also became a major goal as one of three pillars of defense policy: readiness, sustainability, and modernization.[17]

This new global strategy is in many ways the logical successor to NSC-68 and Kennedy's flexible response concepts. There is a major worldwide threat that has to be contained, and we need to be able to contain it, militarily, wherever, whenever, and however necessary. Implementing this belief required an enormous across-the-board force modernization and expansion financed by significant real increases in defense spending.

Because of past deterioration in readiness, sustainability, and, especially, strategic mobility, these categories are receiving particular emphasis. Two new active and two new Guard light infantry divisions are being added to our ground forces, along with new C-5B air transports and KC-10 tanker/cargo aircraft. Naval strength is growing to 600 ships designed to maintain maritime superiority over the Soviets. And funding for the RDJTF, now the Central Command (CENTCOM), also has been increased.

Toward a Reagan Doctrine?

In terms of goals, objectives, and, sometimes, rhetoric, the Reagan administration's approach has taken us back conceptually to square one: oppose communism and defend freedom. But in terms of means and actual practice, this approach is different from its predecessors and, in fact, may be evolving into the very selective security strategy we are advocating here. Will there now be a Reagan doctrine?

Consistent with the thinking embodied in NSC-68 and the Kennedy flexible response program as actually implemented, the Reagan approach requires a massive conventional military capability and the determination to employ it when needed. However, it also goes beyond those predecessors in appreciating the role of public support and in selectively delineating when force should be used on a case-by-case basis. In redefining conventional deterrence, the administration (at least within the Department of Defense) appears to be rejecting the controlled escalation and limited war concepts of the fifties and sixties in favor of a new doctrine of careful, selective involvement that is willing to use force when needed. Secretary Weinberger set forth several tests for committing U.S. forces to combat:

- Are vital interests at stake?
- Are we prepared to commit sufficient forces to win?
- Can we clearly define our political and military objectives?
- Can we size forces to serve those objectives?
- Do we have reasonable assurance of popular support?
- Is combat being used only as a last resort?[18]

Later he emphasized the selective aspect by stating,

> We cannot allow the Soviets to define our interests. Judgments about vital interests will sometimes depend on circumstances of the specific case and trends as well as intrinsic values. The necessity to win requires clearly defined objectives and a firm and resolute America.[19]

In our view, the early Reagan approach is changing because it was flawed by its underlying acceptance of the domino theory and its oversimplification of the threat situation. Initially, the Reagan administration apparently assumed, for example, that, if the United States did not immediately oppose expansive Soviet moves, the aggressor would be encouraged to become ever more aggressive. Sometimes this type of scenario has occurred in history. However, often an aggressor finds that he must deal with many kinds of friction and opposition. Sometimes the initial successes of the aggression will cause a divided or disinterested population in the victim nation to pull together to make extraordinary sacrifices to oppose the attacker. In short, it is not always necessary for the U.S. military to become involved quickly if an aggression occurs somewhere.

The early strategy of the Reagan administration also oversimplified the international scene and the threat situation, focusing single-mindedly on the Soviet Union. It assumed that most regional conflicts had a major Soviet component which must be dealt with. In the real world, some do, but others do not: the Arab-Israeli dispute is an example of the latter. The approach further did not take into account adequately the increasing diffusion and variability in the international exercise of power, nor did it give much weight to the multitude of non-Soviet threats to American interests. Although the Soviet Union is the only actor capable of mounting a continuous broad-scale survival threat to U.S. interests, other important threats must also be met.

Perhaps most crucially, the early Reagan approach assumed the need for the *United States* to always play the lead role in containing the Soviets, with the logical implication being that forward deployments were necessary to sustain that lead role.

As a matter of practice, the administration has been quite selective in its involvements, acting in a limited fashion in Southwest Asia, Central America, and Lebanon while avoiding other possible involvements such as in Angola, the Persian Gulf, etc. But these operations have been based on ideas that have only begun to coalesce into a strategy—a process that to date is inconsistent and far from complete but one which we want to urge forward.

One of the fundamental rules of the international system is that, except in the most unusual circumstances, nations will vigorously resist foreign efforts aimed at dominating them and will fight to protect their vital interests. Since they will normally resist, the United States does *not* always have to take the lead. And since the location and mode of deployments should reflect employment requirements, the United States does not always have to be forward deployed in front of or alongside those who might be attacked.

General Wallace Nutting, commander in chief of U.S. Readiness Command, succinctly defined current U.S. objectives and strategy for much of the developing world as follows:

> In company with our allies, we seek to project our own influence and value system, protected as necessary by military power, to those people imbued with the love of liberty. In this way, we seek to achieve a sense of order and stability while encouraging evolutionary change, political and economic freedom of action, and deterrence of war.[20]

On the Eurasian continent, it is the countries around the periphery of the Soviet Union that have the most to lose if the Soviets move, and they will respond. Look at Finland in 1940 or Afghanistan today. If the Soviets attacked China or Germany, there would be resistance. Serious resistance. In contrast to the 1950s, maturing states now are better formed and have more self-identity. Because of its enormously favorable geographic position, the United States has a flexibility and range of choices that many others do not have. It usually has to be on the front lines only if it chooses to be. That is a tremendous plus—one on which the second Reagan administration needs to concentrate.

Because the United States can afford to be more selective and careful in its involvements than many of its friends can be, a major objective of the emerging Reagan strategy (doctrine?) should be a division of military labor, much the same as that of the Nixon doctrine. Of course, even if changing employment needs make it possible to reduce forward deployments, for political reasons, a gradual but unwavering withdrawal to a U.S. strategic reserve would be better than a precipitate one. Throughout history, most alliance commitments in the international system have not involved major, semipermanent forward deployments. The United States itself did not intend such a deployment when it signed the North Atlantic Pact. U.S. commitments and forward deployments do not have to be inextricably linked.

Moreover, the allies' inexorable need to enhance their own capabilities (if the United States does not do so much of the job for them) means that a gradual lessening of U.S. forward ground deployments does not have to yield a net decrease in capabilities confronting the Soviet Union. Returning more U.S. ground forces to the United States without decreasing alliance security depends, of course, on a continued U.S. commitment and military assistance programs. At the same time, it will decrease overall U.S. defense spending somewhat and narrow the strategy/force mismatch that has prevailed for so long.[21]

If a less forward deployed, more selective strategy continues to develop, some changes will be necessary in military force structure. Let's turn now to a detailed look at what this would mean for force planning.

What Now? The Forces

As impressive as the Reagan rearming of America has been, our new military forces are missing the boat (and the airplane, too) to a considerable extent for the sorts of rapid conventional force deployments that are necessary for selective involvement and strategic mobility. Force acquisitions still give too much emphasis and too many resources to heavy armored and mechanized ground forces and too little to the airlift and sealift needed to deploy rapidly and to sustain combat power adequately.[22]

In deciding what kinds of forces to procure and deploy, the first question to answer is what kind of contingency will they be employed in. The analytical tool of the spectrum of war is useful here.

We can conceive of international conflict as a spectrum ranging from the most violent to the least violent. At the most violent end would be the Armageddon of global thermonuclear war—the most violent conflict currently conceivable and the most general because it quite possibly would involve the survival of every nation of earth. At the least violent end of the spectrum, we find diplomatic statements or protests—involving the United States with another nation with no threat to the survival of either and with military involvement limited solely to the implications each nation may draw from the existence of the military forces of the other. We can sharpen our analytical tool a bit more.

Governments traditionally define their interests as vital or nonvital. Vital interests are those important enough to fight for. In any potential conflict, we therefore get a clue to

The C-5 Galaxy (above) is a mainstay of strategic airlift. Even with the addition of fifty C-5Bs, the fleet cannot meet projected intertheater airlift requirements. . . . The addition of the C-17 (right) will improve intra- and intertheater airlift capability for outsize cargo.

where that conflict might fit in the spectrum by whether a government has declared the interests involved to be vital.

Additionally, by considering whether the international violence in this spectrum would threaten the survival of an involved nation or not, we can infer whether the conflict would be general or limited from the perspective of each participant. If the violence threatens the survival of a nation or its controlling government, then, from that nation's perspective, the war is general and likely to be very violent. If national survival is not threatened, the conflict can be limited. A conflict between two states that is perceived to threaten the survival of both would be general, as was the case in the war between North and South Vietnam in 1972-75 or as would be the case in a war between North and South Korea if neither could attract allies. On the other hand, a war that threatened the survival of neither would be limited, like the Falkland/Malvinas Islands War between Argentina and the United Kingdom in 1982. A conflict that threatened the survival of one participant but not another would be a general-limited war, such as the Korean War in 1950 (after the United States joined, but before the intervention of the People's Republic of China).

Although the correlation is not perfect, successful deterrence strategies and shared interests in avoiding mutual destruction have meant that a decrease in the level of violence (within the current spectrum of conflict) is accompanied by some increase in the likelihood of occurrence. Global thermonuclear war is the least rational, most self-destructive, and least likely form of interstate conflict. A major conventional war among nuclear-armed opponents appears only slightly more reasonable and less self-destructive and thus only slightly more likely. General war among nonnuclear states is comparatively less violent and so more likely. Limited-general war is more likely than general war; completely limited war, more likely still. Brushfire wars, like the Grenada rescue, are even more limited and more likely. Counterterrorism raids,

like Entebbe or the forcing down of the hijackers of the cruise ship *Achille Lauro*, are the most limited form of international violence we have considered and also the most probable.

It is clear that U.S. force planning has been focused primarily on the least likely contingencies on the spectrum. Although the United States must continue to give high priority to the Soviet threat, other threats must also be dealt with seriously. And our belief is that a change in emphasis already is under way within the Reagan administration and within Congress. We hope that it continues. The strategy of selective involvement implies both a less forward deployed stance and a less permanent U.S. role in the European and Asian theaters, as well as the capability to become more involved elsewhere if prudent policy so dictates.

What does this actually mean? In Europe, NATO forces should remain strong enough to execute the flexible response strategy effectively. But the major role which American forces play in maintaining that strength can gradually but unwaveringly be diminished. Over time, the Europeans can and will have to shoulder more of the burden of defending what is after all, their territory; eventually, they will need to assume full responsibility for initial ground defense. American reductions and redeployments should not be precipitous, but, over time, this is the direction that events must take. Any costs avoided in reducing semipermanent U.S. overseas deployment should free up defense dollars for strategic mobility so that the United States actually can have the capability to deploy and fight on a sustained basis outside of Europe. The current acceleration of administration plans to reorganize the U.S. Army's active force structure somewhat (with greater emphasis on strategically mobile light divisions) shows what can be done.

In Asia, too, some reduction in forward ground force deployment, combined with greater allied responsiblity for initial ground defense, is desirable. In Korea, an immediate withdrawal may not be feasible, but the ultimate objective must be an entirely offshore U.S. deployment, with South Korea "protected" by its own conventional forces under a U.S. nuclear umbrella and with a regularly exercised Return of Forces to Korea program to demonstrate the U.S. commitment and provide practice in rapid deployment. In the long run, in Asia as in Europe, forward conventional ground defense must be the responsibility of local forces. Such reductions and redeployments will allow the United States to implement a strategy of selective involvement more carefully and release resources for other tasks.

With the growing proliferation of international threats, our concern here is primarily with those "other tasks"—the planning for hostilities at the lower end of the conflict spectrum, hostilities that usually occur in the Third World. Secretary Shultz recently called this level of conflict "ambiguous warfare," and he stated:

> Our intellectual challenge is especially to understand the need for prudent, limited, proportionate uses of our military power, whether as a means of crisis management, power projection, peacekeeping, localized military action, support for friends, or responding to terrorism—*and* to coordinate our power with our political and diplomatic objectives.[23]

In linking U.S. military power with objectives, what will the United States ask its military forces to do about these most probable forms of international conflict?

Creating a U.S. capability to employ forces effectively in such contingencies depends on increasing the emphasis on and understanding of power projection, line of communication (LOC) protection, and strategic defense. By power projection, we mean the timely deployment and maintenance of combat forces for a favorable local military decision. These forces might be balanced or light U.S. strike forces, but our analysis suggests that most often the necessary power projection will consist of the combination of rapidly deployed U.S. air and sea power, U.S. communications and logistics

links, and local ground forces.

By line of communication protection, we mean the military task of defending the linkage between the United States and its commerce, citizens, and military deployments abroad. LOCs must be defended against threats from international terrorism as well as from conventional or nuclear attack from subnational and national entities. In this context, LOC protection becomes the temporary and relocatable bridge between the tasks of strategic defense and power projection.

In surveying the spectrum of conflict, we can see that the low-intensity tasks of power projection and LOC protection and the low-intensity part of strategic defense of the United States address contingencies that may have a high likelihood of actually happening. To illustrate what this might mean for the United States operationally, to date terrorist groups and other subnational and national threats have been deterred only slightly by possible reactions to their limited but effective acts. For example, successful Israeli responses to aircraft hijackings have modified but not deterred subsequent attacks. In this part of the conflict spectrum, the United States must shift from what until now has been an almost wholly deterrent stance to a potentially warfighting one if it is to succeed in those selected instances when U.S. vital interests and national objectives require military action.

It is our view that in other contingencies, as stated earlier, the unique advantage of the U.S. geostrategic position and the maturing strength of a host of new nation-states (whose own interests and survival will mandate their involvement) combine to create automatic U.S. "allies." In Central America, in the Middle East, and soon even in Europe and Asia, local ground forces will be able initially to bear the brunt of their own defense in many contingencies, provided the United States can accomplish its tasks of strategic defense, LOC protection, and power projection—including new requirements for strategic mobility.

Strategic Mobility

By strategic mobility, we mean the U.S. capability of performing the military task of power projection, i.e., to project and sustain combat power, when and where necessary, to attain U.S. national objectives.[24]

Early aspects of the budding Reagan doctrine have involved both encouragement for positive evolutionary changes in the Third World and policies aimed at forestalling revolutionary disasters where major U.S. interests could be put in jeopardy. However, if these U.S. initiatives are to be appropriately buttressed, then it is necessary for U.S. strategy to move away from massive forward deployments, which inevitably depend on long-term international cooperation from allies. Instead, we need to move toward mobile U.S.-based forces designed more for rapid movement and for the augmentation of local ground forces. The U.S. ability to reach this objective will pivot on strategic mobility.

Historically, the United States has acquired strategic mobility with a combination of airlift, sealift, and prepositioned stocks. Airlift transported the early forces and met rapidly developing logistics needs, sealift transported later-arriving reinforcing units and the bulk of logistics requirements, and prepositioned stocks could reduce the large, early requirements for lift. The annual REturn of FORces to GERmany (REFORGER) exercise provides an example of our traditional use of lift. The first forces and supplies arrive by airlift. The TACAIR reinforcements return to their collocated European operating bases. Military Airlift Command (MAC) expands its network of European aerial ports. The first troops open up and prepare prepositioned stocks—in this case, POMCUS (prepositioned materiel configured in unit sets). Airlift brings in the first reinforcements without heavy stocks (these forces use the POMCUS in the theater). As equipment and troops are "married," they deploy to field positions. Sealift brings in follow-on

materiel in greater bulk for resupply. Airlift—fast, flexible, expensive, and weight-limited—will deliver the early forces within hours of the deployment decision and close (or complete unit delivery) on the first units in three to seven days. Sealift—slow, largely limited to major seaports, inexpensive (per ton), but capable of large tonnages—will close unit forces to Europe in fifteen to twenty days. In these annual exercises, MAC uses its own planes for almost all cargo, and it contracts for commercial augmentation from Civil Reserve Air Fleet (CRAF) air carriers for almost all of the passenger airlift. Military Sealift Command (MSC) uses a combination of organic and contracted carriers also, with most of the shipping coming from contracts with private concerns and a smaller portion coming from government-owned or chartered ships crewed by civilian mariners.

Since 1979, some of the traditional elements of the strategic mobility equation have been changing:

- from an area focus on NATO Europe to Third World areas, such as the Persian Gulf and Central America;
- from an almost exclusive concentration on the threat of invading Soviet armies to concern about a multitude of threats, including the need to confront minor powers or subnational forces with a wide variety of arms; and
- from U.S. lift requirements centering on U.S. mechanized and armored divisions to lift requirements emphasizing faster deployment of lighter forces for contingencies or quick-response deterrence.

These changes were partly the result of Carter responses to the Soviet invasion of Afghanistan and the Iranian taking of American hostages and partly the result of Reagan concern over a Caribbean Basin containing a Soviet-supported Cuba and a Marxist Nicaragua. The revolutionary changes in military tasks implied by these responses and their emergent national strategy began an evolutionary integration of strategic mobility, which is continuing today.

In our view, three separate and changing major integrations are under way:

- lift forces are becoming integrated with fighting forces (especially airlift and special operations);
- military lift forces are becoming integrated with civilian lift assets; and
- U.S. deployment and employment policies and procedures are gradually becoming integrated with the policies and procedures of a widening variety of allies.

Airlift forces and, to a somewhat less extent, sealift forces are becoming integrated with fighting forces because of a new appreciation of the importance of timing, the need for direct battlefield delivery, growing skills in utilizing new and modified equipment such as KC-10As and air-refuelable C-141Bs, increased mobility play in joint military exercises, and efforts to integrate airlift and special operations missions.

As CENTCOM began to wrestle with the enormous logistics and communications requirements of projecting and protecting U.S. military forces in the Persian Gulf region, service planners gained a new appreciation of the criticality of timing in force arrivals. In its most simplified form, this appreciation uses the general rule of thumb of a three-to-one advantage being necessary for tactical offensive forces to succeed over active, in-place defenders. For example, if CENTCOM were to insert a division into a mountainous area with a friendly local reception, that division could be expected to delay three advancing Soviet division equivalents and to stop a lesser force. On the other hand, if those three Soviet division equivalents arrived first and could dig in, then nine U.S. divisions (not one) would be needed to assault and control the same area. Faced with this admittedly overly simple arithmetic, military planners have sought ways to decrease unit closure times significantly.

Speeding up unit closure to distant Third World areas depends on solving the problems of great distance, little or no prepositioned

stocks, port bottlenecks, and undeveloped transportation infrastructures (roads, rails, rolling stock, etc.). Great distance can be conquered by speed. Since airlift transits ocean areas twenty times faster than sealift, we must depend on airlift and early decision making for the first part of a solution to rapid unit deployments. Prepositioned stocks present problems in the Third World because they are a political and often physical impossibility on land. In the Indian Ocean, our response to this dilemma was first to put prepositioned stocks afloat on climate-controlled shipping. Next, we began to lighten the ground force structure somewhat so that a greater share of our forces (indeed, whole units) can become air transportable. The dual problems of bottlenecked ports and primitive infrastructure must be dealt with effectively by a combination to improving infrastructure where possible, increasing direct-delivery capabilities, and integrating inter- and intratheater airlift missions.

It is difficult to imagine more timely lift than that which is delivered directly to the battlefield. Direct delivery leapfrogs saturated ports and clogged transportation arteries to deliver cargo and troops directly from points of origin to forward airfields or the battle area. Combat delivery parachutes cargo and troops directly onto a battle area or uses the low-altitude parachute extraction system for greater accuracy. However, direct combat delivery demands an extraordinary amount of airlift to deliver fairly small amounts of materiel. The combat delivery equipment takes up space and must be airlifted, too. Strategic mobility calls for a maximum amount of cargo delivered rapidly, which requires landing on primitive airfields and efficient offload. These latter areas need strengthening.

The current airlift fleet requires several main operating bases for the more efficient airlanding form of delivery. The venerable C-130 Hercules can land, ground maneuver, and offload on a wide variety of austere Third World runways, but it must trade cargo capacity for fuel to cross intercontinental distances. Consequently, it is presently used primarily as the intratheater airlifter—shuttling from a main operating base overseas to the forward airfields near the battle. The C-141 Starlifters and C-5 Galaxies can operate into austere forward bases, but their size and ground maneuverability are such that one such aircraft usually closes most Third World airfields to any other arrivals or departures until the one on the ground can be marshaled, offloaded, and put back in the air—seriously impeding system capacity. Commercial aircraft such as the B-747 and DC-10 (or the military KC-10 version) require longer runways, more taxi space, and a greater amount of special materiel-handling equipment than are available in most areas. Consequently, although direct delivery promises to do much toward solving the problems of strategic mobility, we must look beyond current equipment for any large-scale increases in capability.

The Air Force is gaining skill in its use of new mobility assets. The purchase of KC-10 Extenders continues. These are of basic DC-10 design but built as air-refueling and cargo aircraft. They are assigned to SAC active and Reserve-associate units and are providing a new kind of capability to refuel deploying tactical fighters while simultaneously carrying associated personnel and equipment. The C-5A wing modification program will be completed in 1986; it has removed an onerous weight-carrying limitation from the current fleet. Lockheed has delivered the first of fifty C-5B aircraft. These are updated C-5 Galaxies; if the program is completed, it will bring the MAC and MAC-gained Reserve forces' unit totals to 120. The C-141B modification is 100 percent completed; all MAC Starlifters have been made air-refuelable and have had additional cargo compartment space added. That air-refueling capability especially enhances quick, long-distance responses to contingencies. An important fraction of these improved C-5 and C-141 forces are being transferred to the Air National Guard and Air Force Reserve under the Air Forces

Total Force Plan—further integrating military and civilian airlift capabilities.

On the commercial side of strategic mobility, civilian assets are surprisingly well integrated with military systems, and the Reagan rearmament program has dealt with this part of the equation as well. Military services depend on commercial airlift and sealift capabilities for part of the routine peacetime transportation of men and materiel. That dependency expands in times of war or major mobility crisis.

Improvements in civilian augmentation of military airlift are under way now. The Air Force's Airlift Master Plan called for CRAF carriers to contribute 11.3 million ton-miles per day. DOD also depends on the CRAF for nearly all wartime troop movement, as well as a share of the bulk and oversize cargo. Commercial-military integration is proceeding with the CRAF enhancement program. MAC contracted with Boeing and Pan American Airlines to make nineteen B-747 passenger aircraft capable of being converted quickly to cargo carriers when the need arises. The modifications, which include strengthening the floors and enlarging the doors, are scheduled for completion in 1989. But commercial aircraft structure, size, and weight preclude carrying outsize cargo or making combat-ready delivery to austere airfields.

Military sealift is heavily civilianized. Civilian mariners crew the government-owned and -chartered ships operated by the Military Sealift Command. MSC estimates that approximately two-thirds of government cargo sealift goes on commercially contracted carriers while about one-fourth goes on MSC-chartered vessels and about 5 percent on vessels that are government assets. For wartime augmentation, we will look to the merchant ships mothballed and maintained by the Maritime Administration. These vessels average forty years old and will require at least sixty days to activate; however, a portion of this reserve fleet is maintained as the ready reserve force (RRF) and can be capable of full operations in ten days.[25]

Recently, MSC announced its second largest purchase of merchant vessels for the RRF. Six roll-on/roll-off vessels will be added to the five bought earlier. Mobility planners will welcome the ability of the roll-on/roll-offs to discharge rolling stock into primitive seaports. The latest buy also included four lighter-aboard ships and three barge haulers. The largest purchase consisted of nineteen older general cargo and breakbulk carriers in 1984.[26]

As was noted earlier, global strategic mobility will hinge on direct delivery—the ability to deliver quickly a decisive amount of troops and equipment from home base close to or onto the battle area. In this analysis, we divided the problem of timely strategic mobility into problems of distance, little or no prepositioned stocks, airfield and seaport bottlenecks, and underdeveloped local transportation systems. Solving these problems requires rapidly responding airlift, easily loaded and offloaded, capable of transporting U.S. weapon systems in fly-away or drive-away condition, and capable of parachuting some troops and equipment directly into the battle area when necessary. U.S. ability to achieve this kind of direct delivery depends primarily on the C-17 aircraft program.

Moving necessary kinds of combat equipment, including outsize cargo, over intercontinental distances for direct delivery to crisis areas requires an airlift aircraft with long range, great cargo capacity, high survivability, airdrop capability, and extraordinary ground-handling characteristics. After a C-X competition for such an aircraft design, DOD selected the McDonnell Douglas C-17 as that aircraft. Secretary Weinberger approved full-scale engineering development of the C-17 in February 1985, and production funding begins with the FY 1987 budget. C-17 design features include a supercritical wing, high-thrust engines, large cargo compartment, and the ability to back itself up during ground handling. These capabilities will allow the aircraft to accomplish the direct delivery called for by this analysis of

strategic mobility.[27] Its procurement in numbers approaching JCS minimum-risk configuration goals is essential.

ALTHOUGH the United States should not precipitately reduce its ground force deployments in Europe and Asia, it must deliberately take advantage of its favorable geostrategic position and begin to reduce those forward deployments significantly. Because the major continental nations of Europe and Asia (including Japan) inevitably stand in the way of major Soviet advances, they are automatically on the front lines and are automatic American "allies" when necessary. They will fight to protect themselves, and, if they know that the United States will not rush in to do the job for them, they will share more of the burden of preparing to protect themselves.

The primary results of eventually moving to an essentially offshore deployment/enhanced mobility strategy would be twofold: (1) the United States could choose more selectively when, where, and how to commit its forces; and (2) resources currently allocated for high-intensity deterrence could be released for low-intensity warfighting when necessary. Because of the proliferation of threats across the spectrum of conflict, American forces must place greater emphasis on mobility and sustainability in austere Third World environments. Strategic mobility especially needs to be enhanced so that the United States has a realistic option of becoming involved effectively in those cases where prudent judgment indicates that the employment of military force can be useful. Because involvement would be selective, obtaining the requisite capability should not become an excuse for involvement. But without that capability (especially more direct delivery), one would be faced with the awful dilemma of either ineffective performance or speaking loudly and carrying a small stick. It is our view that the strategy of selective involvement implemented by more strategically mobile forces is the most effective means of protecting American interests with minimal cost and risk.

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Notes

1. An early form of the selective involvement strategy was developed in Dr. Robert L. Wendzel and Lt. Col. James L. True, Jr., "Selective Involvement: A National Security Policy for a Changing World," *Air University Review*, March-April 1983, pp. 2-16.

2. Frederick H. Hartmann and Robert L. Wendzel, *To Preserve the Republic: United States Foreign Policy* (New York: Macmillan, 1985), p. 46.

3. Presidential press conference, 7 April 1954. Also see Robert A. Divine, *Eisenhower and the Cold War* (New York: Oxford University Press, 1981), p. 41.

4. See the discussion in William W. Kaufmann, *Planning Conventional Forces: 1950-1980* (Washington: Brookings Institution, 1982).

5. Robert Frank Futrell, *Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force, 1907-1964* (Maxwell AFB, Alabama: Air University, 1971), p. 212; and Warner R. Schilling, Paul Y. Hammond, and Glenn H. Snyder, *Strategy, Politics, and Defense Budgets* (New York: Columbia University Press, 1962), pp. 420-22.

6. Obviously, the course of the Vietnam War, too, was changing, but that subject is beyond the scope of this article.

7. The Sino-Soviet split demonstrates the fallacy that a common ideology ensures common friends and common enemies.

8. See Richard Nixon, *U.S. Foreign Policy of the 1970s: A New Strategy for Peace*, 25 February 1971 (Washington: Government Printing Office, 1971), pp. 12-14.

9. The Nixon administration was also influenced heavily by the domestic scene, of course.

10. United States Air Force, "Pocket Summary of President's Budget FY 1985," February 1984; and John L. Gaddis, *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy* (New York: Oxford University Press), p. 323.

11. Jeffrey Record, *Revising U.S. Military Strategy: Tailoring Means to Ends* (Washington: Pergamon-Brassey's, 1984), p. 32.

12. See either George C. Wilson, "Weinberger, in His First Message, Says Mission Is to 'Rearm America'," *Washington Post*, 23 January 1981, p. 3, for comparison with Caspar W. Weinberger, "What Is Our Defense Strategy?" news release of remarks to National Press Club, 9 October 1985.

13. Department of State, *Foreign Assistance Program: FY 1986 Budget and 1985 Supplemental Request*, May 1985, pp. 1-2.

14. President Reagan's address before the U.N. General Assembly, 24 October 1985, in *Current Policy*, October 1985.

15. Contrast recent statements of the Reagan administration, such as Secretary Shultz's address, "America and the Struggle for Freedom," in *Current Policy*, February 1985, with the earlier rollback sentiments in President Reagan's 1982 address to the British Parliament, in *Current Policy*, June 1982, and with the "prevailing with pride" in Thomas C. Reed's address to the Armed Forces Communications and Electronics Association, in *Signal*, August 1982, p. 29.

16. Weinberger, op. cit.

17. Richard Halloran, "Reagan Aide Tells of New Strategy on Soviet Threat," *New York Times*, 22 May 1982, p. 1; and Halloran, "Pentagon Draws Up First Strategy for Fighting a Long Nuclear War," *New York Times*, 30 May 1982, p. 1.

18. Caspar W. Weinberger, "The Use of Force and National Will," *Baltimore Sun*, 3 December 1984, p. 11.

19. Weinberger, "What Is Our Defense Strategy?" op. cit.

20. General Wallace H. Nutting, "Strategic Mobility: A Puzzle Which Must Be Solved," *Government Executive*, January 1985, pp. 26-28.

21. Of course, the strategy/force mismatch never can be really eliminated in peacetime.

22. For a statement of the high priority afforded weapon systems for defeating heavily armored opponents, see *Annual Report of the Secretary of Defense for FY 1985*, p. 119.

23. Secretary Shultz's address before the Low-Intensity Warfare Conference, 15 January 1986, in *Current Policy*, January 1986.

24. Our definition departs from the one in the 1974 JCS dictionary by adding "when and where necessary." Timing is a very critical element to strategic mobility. Note also that we are differentiating between power projection, a military mission to be done, and strategic mobility, a special military capability. For an excellent but slightly different approach to the topic, see Lieutenant Colonel Dale M. Rucker, "Strategic Mobility: Achilles' Heel of Force Projection," Air War College Research Report, May 1985, available through the Defense Technical Information Center.

25. Vice Admiral William H. Rowden, "Sea Control, Power Projection and Sealift," *Defense Transportation Journal*, June 1984, pp. 10-12.

26. Robert F. Morison, "Navy Builds Sea-Lift With $206 Million," *Journal of Commerce*, 22 January 1986, p. 1.

27. For a more complete description of the C-17, see "Validation of the Requirements, Concepts, and Design for the C-17," Hq Military Airlift Command, November 1983. A thumbnail summary of the C-17 and direct delivery may be found in "Ryan Explains Airlift Needs to Congress," *Air Force Times*, 7 May 1984, p. 24.

EDITORIAL

FROM THE RHINE TO THE RED RIVER AND BEYOND

THE images were familiar. In late March, when American crews flying U.S. choppers hauled Honduran troops to the front to repel a reported Nicaraguan invasion, parallels to Vietnam were too easily drawn. Americans, as in 1962, were supporting a friendly force and doing so with many of the same proscriptions against going into combat. As before, the rhetoric from Washington raised the specter of advancing Communist revolutionaries threatening regional nations and, ultimately, our national security. Even the flora of Central America conjured up memories of those Asian jungles where so much American blood was spilled.

Central America is not, in fact, Southeast Asia. Vietnam was a full day away by Boeing 707; Managua is an hour and a half from Texas, as the Bear flies. The enemy in Southeast Asia was hard to define and diffuse in purposes that could be construed as being as much anticolonialist and pronationalist as Communist. Comandante Daniel Ortega and his cohorts claim to be interested only in turning Nicaragua into a Marxist-Leninist state and say that they will leave their neighbors alone if they are not threatened. Nevertheless, the feeling among many in Washington is that the Sandinistas are Communist revolutionaries dedicated to the spread of subversion throughout Central America and the hemisphere.

Our purpose is not to draw parallels or make contrasts with Southeast Asia. Neither do we intend to oppose or to advocate sending Americans to fight in Central America. Rather, we simply ponder the possibility that someday U.S. Air Force planes may go into action in the region.

If that day ever comes, what role should air power play? Can we draw applicable lessons from the twelve years of experience we brought back from Indochina?

The U.S. Army, it has been said, went into Korea a very poor army but came out strengthened by the experience. It was that fine force that landed in Vietnam in 1965 to fight there in much the same way it fought in Korea. The U.S. Air Force, however, purposely disregarded lessons that might have been learned in Korea.

In the years after the Korean armistice, the Air Force viewed that war as an aberration which would not be repeated. In the 1950s, the Strategic Air Command was in its heyday as we built an institutional Air Force capable of laying waste to the Soviet Union under the aegis of the doctrine of massive retaliation. The Tactical Air Command, by comparison, was relegated to the role of a "junior SAC," with planes, crews, and training optimized for delivering somewhat smaller nuclear weapons. The Air Force that went to war in the midsixties played out a repertoire more suited to World War II than either Korea or Vietnam.

After 1975, while incorporating some tactical lessons learned into our Red Flag program, the Air Force again decided to ignore its most recent combat experiences because, once again, we preferred to think that we had been engaged in a never-to-be-repeated diversion from the true course of the employment of strategic air power. Consequently, we have not properly analyzed issues pertaining to strategy, institutional roles, organizational structure, and the impact of air power on the perceptions of the public at large. Do we have the doctrinal foundation, force structure, and inventory suited for fighting the kind of protracted, quasi-conventional war that we might have to deal with should we be sent to Central America? Are we flexible enough to make the adjustments necessary to accommodate the differences between fighting the Sandinistas and the Soviets, or would we simply play out the scenarios with which we are familiar? Would we try to fight in Central America as we would if we were fighting in Central Europe? If we do, we could lose.

It is time to take a hard look at history. In our rush to "put Vietnam behind us," we run the risk of losing its important lessons. Conventional wisdom points to Linebacker II as the ultimate bombing campaign, that effort which "brought them to their knees." Perhaps it was a fitting way to end the participation of American air power. While Linebacker II was hardly a Dresden or a Hamburg in its scope, the spirit that inspires the often-heard suggestion that "had we done in '65 what we did in December '72, we would have won the war then" comes to us from the skies over the Rhine, half a world and a generation removed from the realities of Southeast Asia. The color of the flag over Ho Chi Minh City and the ease with which it was placed there a mere two years after our B-52s won "peace with honor" should prompt us to look beyond the readily apparent.

E.H.T.

IRA C. EAKER
THIRD-PRIZE ESSAY

TACTICAL AIRLIFT TACTICS AND DOCTRINE: MORE CARTS, MORE HORSES

COLONEL PAUL L. WILKE

A friend of mine told me an interesting story the other day. For a variety of reasons, his family made a good many road trips. Increasingly, members of the family became dissatisfied not only with their present car but also with the way the journeys went. So they shopped around, bought a nice new vehicle, did better planning on how to drive it, and shortly thereafter set out on a trip. They were extremely pleased because they were making excellent time and were getting great gas mileage—extremely pleased, that is, until someone asked where they were going, and nobody knew! Of course, this last detail was fictional, but still it made an interesting story.

RECENTLY, I have been involved with people who are dissatisfied with the present scheme of things. These people are the interested individuals in the tactical airlift community of the U.S. Air Force. Their concern centers around the warfighting capabilities of our tactical airlift forces. Their disquiet stems from many things, among them the experiences of Red Flag and Maple Flag exercises and of a Military Airlift Command (MAC) study titled *Close Look II.* As a result, there has been a tremendous increase of interest in tactical airlift tactics and in equipment improvements that will enhance force survivability.

A large part of the increased interest in improving or developing new tactics stems from the Red Flag/Maple Flag experiences. The first tactical airlift participants in this rigorous training scenario returned from their missions to be inundated with films from ground-based antiair systems and fighter gun cameras showing their slow-flying transports as easy marks for these predators. Something had to be done.

By and large what was done was to turn to Air Force fighter pilots for advice on how to avoid these threats. The well-meaning answer was that even though tactical transports were

slow and not very maneuverable, there were still things that they could do to help themselves. For example, the fighter pilots told the airlifters, they couldn't fly in straight lines in big formations and hope to escape unscathed. According to the fighter pilots, the airlifters had to fly as low and as fast as possible, constantly jink and juke, always fly curvilinear paths rather than linear ones, and spread way out so that individual aircraft in an ostensible formation could not even see one another.

Such suggestions by the fighter community had a great impact. The spread-out, curvilinear, jinking-juking philosophy greatly complicated the navigational problem, bringing demands for new equipment such as an inertial navigation system. Also there was a great impact on tactics. The airlift crews picked up on the fighter pilots' suggestions, innovated newer and more audacious fighter-like tactics, and brought them back from Red Flag to their home units.

In some dusty corners, however, doubts lingered. Is it really the tactical airlifters' mission to fight their way through a threat array in the manner of fighter-type aircraft? Also, the jinking-juking, always curvilinear transports on the Red Flag missions invariably made loadmasters, experienced during a thousand airdrop missions, motion sick. What will be the effect on a planeload of paratroopers who often do not feel too well on "normal" missions? If the whole purpose is to get these paratroopers to a certain place in fighting condition, are we doing the right thing? Similarly, if formations are spread out all over the countryside, how are the airborne forces going to be delivered in the proper sequence and mass they need to complete a successful air assault? As Major Ronald Boston pointed out in his article "Doctrine by Default," the lack of sequence and mass proved disastrous to airborne operations in North Africa and Holland during World War II.[1]

Another driving force toward the development of innovative new tactical airlift tactics has been the MAC *Close Look II* study. *Close Look II* was the follow-on study to a similar effort conducted by the tactical airlift community in the early 1960s. That earlier study resulted in a revision of tactics from those that had been in existence since World War II to those currently accepted today.

Lieutenant Colonel William Forsythe, deputy director of the study, said in his article "Close Look II" that the change in the threat posed by the Soviet Union and its allies from the early sixties to the late seventies demanded another in-depth look at tactics.[2] According to Colonel Forsythe, the purpose of phase one of the study was to review tactics, examine equipment improvements for the force, and assess current and projected threats. Because of the dimensions of the threat, analysts conducting the study foresaw a need for increased flexibility in tactics. The general approach taken "was to first review the current tactics, equipment, and procedures available." One of the recommended changes in tactics was similar to "solutions" developed at Red Flag, i.e., the use of single ship or very small, more maneuverable formations.

Yet another strong suggestion of *Close Look II* was that individuals at the squadron level become more involved in developing new tactics. The theory behind this idea appeared to be that the people actually doing the job would probably have a lot of helpful ideas on how to improve tactics. I became aware of the objectives and involved in the process at this point.

At the squadron level, we saw a proliferation of combat environment training, hostile environment training, and combat aircrew training programs. We saw tactics symposiums and more emphasis on flying against the threat and evasive maneuvers to counter the threat. Many a bright young man became deeply involved in this effort, and many new ideas were developed that had much merit. Yet increasingly I had the feeling that we were all caught up in a frenzied rush to find a better

way to get there—of *how* to do the job—and no one was speaking of where we were going—*what* the job really was. The noise of *how* was loud, raucous, and clamorous; the silence of *what* was being ignored.

Doctrine should tell us, should it not? Professor I. B. Holley, Jr., in his article "An Enduring Challenge: The Problem of Air Force Doctrine," says, "Doctrine is like a compass bearing; it gives us the general direction of our course."[3] In "Some Thoughts on Air Force Doctrine," Major Robert C. Ehrhart offers another good explanation of doctrine, which he says provides "guidance and a sense of direction on the most effective way to develop, deploy, and employ air power." Further, doctrine "explains what air forces are capable and incapable of doing and . . . why they are used in certain ways. . . . It gives us general headings, but it does not give us detailed instructions on how to get there."[4]

WHAT is this doctrine which tells us where we want to go? For the U.S. Air Force, it is found in Air Force Manual 1-1 (AFM 1-1), *Basic Aerospace Doctrine of the United States Air Force.* This manual defines aerospace doctrine as "a statement of officially sanctioned beliefs and warfighting principles which describe and guide the proper use of aerospace forces in military action." It further says:

> Basic doctrine states the most fundamental and enduring beliefs which describe and guide the proper use of aerospace forces in military action. Basic doctrine is the foundation of all aerospace doctrine. Because of its fundamental and enduring character, basic doctrine provides broad and continuing guidance on how air forces are prepared and employed.[5]

As should be expected, AFM 1-1 has only general things to say about airlift. It says that the objectives of airlift "are to deploy, employ, and sustain military forces through the medium of aerospace." More specifically, it says that airlift under combat conditions projects power by airdropping, extracting, and airlanding ground forces and supplies "to exploit an enemy's weaknesses."[6] In summary, what we get from AFM 1-1 is that airlift helps to win wars.

To say that we need airlift does not do much to help us discern where it is we want to go, that is, what, specifically, airlifters are supposed to do. But AFM 1-1 has not failed us. It says that there are really three levels of aerospace doctrine, the first of which is basic doctrine. The third level is tactical doctrine, which "applies basic and operational doctrine to military actions by describing the proper use of specific weapon systems to accomplish detailed objectives."[7] This latter doctrine, then, is the how to get there, the link to tactics. But, yes, you saw a reference to operational doctrine, the link between the first and third levels. According to AFM 1-1, "operational doctrine applies the principles of basic doctrine to military actions by describing the proper use of aerospace forces in the context of distinct objectives, force capabilities, broad mission areas, and operational environments."[8] Eureka, need we only look into AFM 2-4, *Aerospace Operational Doctrine: Tactical Air Force Operations, Tactical Airlift,* to find answers we seek?

Before we go searching for AFM 2-4, though, I must take a step back and admit that *Close Look II* did take cognizance of doctrine. Colonel Forsythe, in his article, said,

> We believe that an update of airlift doctrine is long overdue. For example, most of the Air Force and MAC manuals and regulations defining the mission and doctrine of the command predate airlift consolidation which occurred a little over five years ago.[9]

Yet as we examine AFM 2-4, we notice a curious thing. Five years after the *Close Look II* study, the effective date of AFM 2-4 is still August 1966. Back in the sixties, the operational units were still called Troop Carrier Squadrons. Despite the changing environ-

ment and threats faced by tactical airlift according to the *Close Look II* study, AFM 2-4 has remained unchanged during a period in which the "most fundamental and enduring beliefs" of AFM 1-1 have been revised four times. Perhaps the seeming neglect of AFM 2-4 is only superficial and what was valid in 1966 remains valid today? Let us look at the manual.

AIR Force Manual 2-4 does tell us what tactical airlift is to do. Tactical airlift forces are to conduct air assault operations to deliver combat forces to objective areas and supply them during and subsequent to the assault phase. Airlift forces are to use airland, airdrop, extraction, or other means to accomplish this mission. They are also to provide means to rapidly relocate forces during mobile operations and to provide logistic support, tactical aeromedical evacuation, and special air support. The interesting job description comes in chapter 2, which tells us that tactical airlift is to deliver and recover forces in combat zones at any level of conflict, in any terrain, any climate, any combat condition, as far forward as necessary. The chapter further elaborates on "as far forward as necessary" to mean to deliver personnel, supplies, and equipment on a sustained basis forward to the brigade level and also perhaps to the battalion/company level and further forward, by any means feasible. Other parts of the manual state that in airborne operations, the forces must be delivered in size, with sufficient mass and with precise timing.

This manual gives tactical airlifters quite a job description—they have to do it all. With the Army's deep-attack options articulated in its new AirLand Battle doctrine, the opportunities to deliver and resupply *way* forward seem prolific. No wonder tactical airlifters feel the desperate need for new tactics of the low, fast, jinking-juking type. And if these tactics, combined with the single ship or small dispersed formations needed to survive, fly in the face of the Army's need to have healthy troopers delivered to an objective area in sufficient force, size, and mass and at the proper time, then maybe we have an unsolvable paradox. Maybe—except for one small part of AFM 2-4, which makes all the difference in the world. It says that airborne operations require a high degree of control of the air and that the air assault must have massive tactical air support in the form of interdiction and close air support to succeed. This same point is made in FM 100-27/AFM 2-50, *USA/USAF Doctrine for Joint Airborne and Tactical Airlift Operations.* Although this manual, like AFM 3-4, *Tactical Doctrine,* is more concerned with the how-to-do-it than the what-to-do, it explicitly states the absolute need for air superiority for the entire airborne operation. In a 1982 interview, Lieutenant General Robert Kingston, Commander of the then Rapid Deployment Joint Task Force (a potential heavy user of tactical airlift), said that transport aircraft would never be unprotected.[10] He also said that although in some cases mass airdrops might be called for, they would not be reasonable unless all threats could be suppressed. Based on a doctrine that requires air superiority for all airborne operations, the quest for new airlift tactics could take on an entirely different tack.

Even with the important condition of air superiority for tactical airlift operations, I still question the current validity of our 1966 operational doctrine. Major Ehrhart said that doctrine "explains what air forces are capable and incapable of doing." Perhaps we no longer are capable of delivery and recovery in any terrain, climate, combat condition, as far forward as necessary, at any level of conflict. Perhaps we are not capable of delivery to the company, battalion, or even brigade level on a sustained basis. The year 1966 was too long ago not to question the present validity of its operational doctrine, particularly in light of the frenzy to develop new tactics which

should be based on such doctrine.

I believe that the importance of doctrine has been largely ignored. Everyone is concerned with tactics, from the *Close Look II* study on down to the crew member in the squadron. Yet no one cares or even knows about doctrine. I cannot remember a single time, in any forum, where an influential MAC personality discussed doctrine. Wing and squadron tactics shops aren't poring over AFM 2-4 and discussing what is the proper role of tactical airlift—and they should be because that is the essential point. Perhaps it can even be said that if people were aware of the 1966 operational doctrine, they would not propose some of the tactics being suggested. But unless we talk about it and examine it, we shall never know whether it is correct.

As a starting point, let me suggest some alternate concepts of operational doctrine. As previously stated, perhaps AFM 2-4 gives tactical airlift too ambitious a job description. It may be no longer reasonable to expect tactical airlift to accomplish the mission described in the current AFM 2-4. Although this has been our operational doctrine at least since 1966, perhaps it has never been reasonable to expect such broad capabilities.

As Major Boston points out in his excellent article, such capabilities were neither expected nor achieved in World War II. During the invasion of Sicily, for instance, the airborne assault was restricted to a nighttime operation because of the fear of enemy fighter interception. Little moonlight and strong crosswinds caused the actual airdrops to be a disaster, especially from the point of view of accuracy, and the widely scattered troops (dropped over a range of more than fifty miles) were not able to accomplish their mission. Later during the same operation, friendly antiaircraft guns mistakenly firing on allied transports completely broke up aircraft formations and kept troops from their objective areas.

Major Boston further points out that during the Normandy invasion the airdrops were again scheduled only at night, this time because of enemy antiaircraft and fighter threats. Unfortunately, clouds over the continent broke up formations, and once again the results were widely scattered drops. Because of the terrible results obtained, future air assaults were restricted to daylight operations only. So much for any weather, any terrain, any combat conditions.

Major Boston's historical examples point out that the 1966 and still-current operational doctrine was not accepted nor even feasible in World War II. Further, Major Boston shows that the whole question of airlift doctrine was seriously argued during that period. Some advocates of tactical airlift wanted to reserve the tactical transports along with the airborne divisions as a strategic force to be used for deep-strike combat missions. Others questioned, based perhaps on actual experience, the ability of such a force to succeed in such missions; these people advocated the use of air assault assets in small-scale operations only, to destroy and capture key locations. Additionally, these latter people saw the utility of tactical airlift in resupply, logistical transport, and aeromedical evacuation roles, which they viewed as both viable and valuable missions.

Although 1966 operational doctrine does not strictly adhere to the ideas/doctrine of massed airborne armies as a strategic deep-strike force, it is much closer with its "do anything, anywhere, anytime" ideas to that doctrine than it is to the doctrine of limited airborne operations and greater emphasis on resupply and logistical support. Yet the questions raised and points made by the adherents of the latter doctrine seem even more valid today than they were during World War II. Thus, the matter remains a doctrinal question that must be discussed and clarified.

The 1966 AFM 2-4 also calls for delivery of personnel, supplies, and equipment on a sustained basis forward to the brigade and even the battalion/company level. If this means in

all cases, it is questionable doctrine. During the 1972 siege of An Loc in Vietnam, the U.S. Air Force faced no airborne threat, yet it could not attain total control of the air. The projectiles fired by enemy small arms demanded their share. The large, slow tactical transports were especially vulnerable during the airdrop phase. Even with the large amount of firepower we massed around An Loc, we could not prevent the loss of tactical airlift aircraft to small arms fire. With the far more deadly arsenal of weapons likely to be in range of U.S. Army companies and battalions in some theaters, is it reasonable to expect sustained tactical airlift support in all cases? Further, unless the Air Force makes clear, through doctrine, what it is capable and not capable of doing, the Army, with the deep-strike portion of its AirLand Battle doctrine, may not only expect but also absolutely rely on the "anything, anywhere, anytime" philosophy. Losses would dictate a change in plans, but why wait for losses when doctrine should tell us now what is and what is not feasible?

I personally think that tactical airlift operational doctrine needs some changing. Mass air assaults are still possible, but only in a benign environment. For example, a large airborne force could be dropped in front of an advancing enemy to block his advance in an area that could not be otherwise quickly reached. Large airborne assault operations are also possible in regions lacking sophisticated weapons, especially if surprise can be achieved. However, as the threat increases, most likely the scope of operations will have to decrease. Short of nuclear weapons, I do not think enough firepower could be massed to blast a path for an air assault operation behind enemy lines in Central Europe. If this is true, let us get rid of the "anything, anywhere, anytime" ideas of our present doctrine.

Similarly, I do not think tactical airlift can afford to say that it can provide sustained support forward to brigade, battalion, and company levels in all cases. Rather, it should say that it will provide sustained support as far forward as the threat allows. If support is needed further forward, then someone with weapons ought to be concerned with removing the blocking threat.

My personal opinions on tactical airlift doctrine, however, are not important. What is important is that the tactical airlift community starts talking about it—the "it" being what we are supposed to do. The importance of such discussion is highlighted by Lieutenant Colonel Dino Lorenzini in his article "Space Power Doctrine."

> The development and articulation of doctrine serve as a focal point for discussion, challenge and group consensus-building. Thus, when new concepts are being formulated, the process of doctrinal development may be more valuable than the product that is finally produced. . . This process clarifies thinking by identifying key ideas, aids understanding by exposing various points of view, and eventually unifies opinion by eliminating weak arguments.[11]

When we have discussed, challenged, clarified, and built consensus, then we can worry about tactics.

TACTICAL airlift—you are a friend of mine. You are required to make many important trips of one type or another. The equipment you have is old, and there may be much better ways of getting there than you presently use. I do not blame you for wanting newer equipment and for seeking better ways of going. But first, my friend, first let us all decide where it is we want to go.

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Notes

1. Major Ronald G. Boston, "Doctrine by Default: The Historical Origins of Tactical Airlift," *Air University Review*, May-June 1983, pp. 64-75.

2. Lieutenant Colonel William D. Forsythe, *Close Look II* (Scott AFB, Illinois: Airlift Operations School, 1982).

3. Professor I. B. Holley, Jr., "An Enduring Challenge: The Problem of Air Force Doctrine," lecture presented at the U.S. Air Force Academy, 11 May 1974.

4. Major Robert C. Ehrhart, "Some Thoughts on Air Force Doctrine," *Air University Review*, March-April 1980, pp. 30, 31.

5. Air Force Manual 1-1, *Basic Aerospace Doctrine of the United States Air Force* (Washington: Government Printing Office, 1984), p. v.

6. Ibid., p. 3-5.

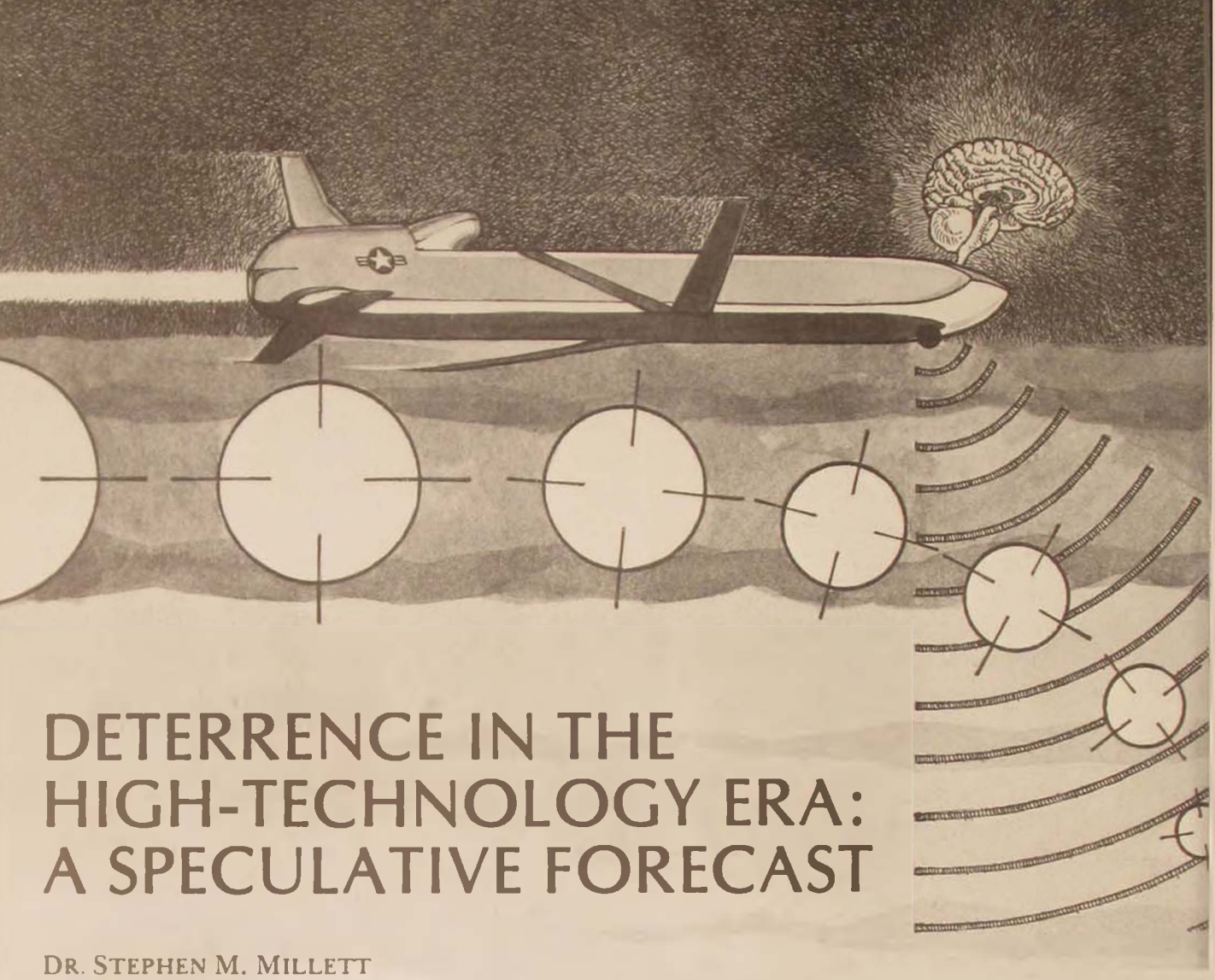
7. Ibid., p. vi.

8. Ibid.

9. Forsythe, op. cit.; "Airlift consolidation" was the transfer of the tactical airlift force from the Tactical Air Command to the Military Airlift Command—a change that consolidated all airlift into one major command.

10. General Kingston's statements are from "Initially . . . It's All Airlift," Commander RDJTF interview by Lieutenant General Robert C. Kingston, 12 July 1982, as it appeared in the Fall 1982 edition of *Airlift: The Journal of the Airlift Operations School*.

11. Lieutenant Colonel Dino A. Lorenzini, "Space Power Doctrine," *Air University Review*, July-August 1982, pp. 16-17.



DETERRENCE IN THE HIGH-TECHNOLOGY ERA: A SPECULATIVE FORECAST

DR. STEPHEN M. MILLETT

IN one of his last papers, which was published in 1976, Bernard Brodie summed up decades of research by observing:

> In the last quarter of the twentieth century one need not belabor the point that technological change in the instruments of war, and in all those instruments of peace that are used in war, have had a profound effect on military strategy and hence on the use of war and of threats of war in diplomacy.[1]

Brodie had been one of the earliest commentators on the strategic and political implications of nuclear weapons. As early as 1946, he had asserted that the huge and indiscriminate destructive power of atomic bombs would fundamentally change military doctrine and international politics. He became one of the first advocates of deterrence, or the policy of avoiding war rather than waging it through the inhibiting fear of nuclear holocaust. His often-quoted declaration rings as true today as it did thirty-eight years ago:

> Thus, the first and most vital step in any American security program for the age of atomic bombs is to take measures to guarantee to ourselves in case of attack the possibility of retaliation in kind. . . . Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose.[2]

It was the very physical nature of nuclear technology that molded the national policies and defense postures of the nuclear weapon nations. American decision-makers came to realize that nuclear weapons, for all their great destructive power, offered very limited opportunities for application. As a means of national defense by threat of retaliation, nuclear weapons were the ideal tools of preserving the peace and national security. As a means of power

projection, they were virtually useless because of their awesome effects. Nuclear weapons caused too much damage to have much military utility beyond the very limited, and extremely important, case of total war.

For example, in the winter of 1947-48 the U.S. Air Force Directorate of Intelligence studied industrial and other economic targets in the Soviet Union for a U.S. strategic bombing plan if total war were to occur. It concluded that a vast proportion of such targets were aggregated into about seventy Soviet cities, each of which could be totally destroyed by one or a few atomic bombs. As Colonel Grover C. Brown recalled, "I think it was a sort of a shock to a lot of people when a few began to talk about bonus effects and industrial capital and particularly when some began to ask what was a city besides a collection of industry."[3] It was at this time that the U.S. strategic countervalue ("city busting") strategy emerged as the military doctrine of nuclear retaliation and deterrence.

Since the late 1940s, a major thrust of nuclear weapon research and development has been toward smaller yields and limited effects for damage control. Yet in addition to the minikiloton yield weapons, there are the gigantic multimegaton bombs and warheads with far greater destructive yields than those calculated by the Air Force Directorate of Intelligence in 1948. By 1963, the Department of Defense had developed a strategic plan that called for the minimum "assured destruction" of the Soviet Union with 400 one-megaton-equivalent deliverable warheads, which would eliminate 30 percent of the Soviet population (about seventy-four million killed) and 76 percent of total Soviet industrial capacity.[4] From relatively small battlefield weapons to super "city buster" bombs, the United States has deployed tens of thousands of nuclear weapons to assure its retaliatory capabilities.

Each nuclear weapon, regardless of its yield, produces the same physical effects (to one degree or another): blast (or overpressure), heat, and radiation. Much has been written about blast effects, which are most important for "hard" (reinforced) counterforce targets. More recently, there has been a growing concern about the effects of heat and the fires that detonations would cause. And there is continued fear of long-term, residual radiation. For all the discussions of nuclear "war waging" and "war winning," the cumulative effects of uncontrollable fires and radiation poisoning might well be sufficient to induce the dreaded "nuclear winter" that would adversely affect the whole planet.[5]

The physical properties of nuclear weapons have had an enormous impact on the policies and strategies of ever having to use them. The principal impact has been fear—the fear of their horrendous damage potential—which is the keystone of the doctrine of deterrence. One wonders how the Soviet-American rivalry after 1945 might have been managed without the mutual restraints imposed by the nuclear fear.

Now new weapon technologies are in research and development with physical characteristics entirely different from those of nuclear energy. These are the "high technologies" of advanced computers, data processing, electro-optics, infrared and microwave sensors, and laser-guided munitions. These are not the exotic, visionary weapon technologies of "Star Wars" or "Buck Rogers" but are emerging technologies incorporated in the first generation of precision-guided munitions (PGMs) that are being deployed in tactical systems and that will most likely be upgraded for strategic systems. High-technology weapons do not offer greater destructive power. On the contrary, they promise greater assurance of target destruction through accurate kinetic explosions. If these high-technology weapons are applied eventually to strategic systems, they may have doctrinal implications of great significance.

For these reasons, examining or exploring a few of these high technologies and their potential political and military implications for the next twenty years may prove beneficial. The central question concerns how technological

advances may impact deterrence. Will they tend to reinforce deterrence, or will they make it obsolescent? Will they make war more or less likely? While these questions cannot be answered precisely now, they need to be addressed so that American policymakers can appreciate the potential implications of the new high technologies.

Emerging High Technologies

High technologies in the private sector have been successfully applied to such popular consumer products as video games, personal computers, laser-cut audiovisual discs, and calculators the size of a credit card. These technologies are also being introduced to military systems. While there are many emerging high technologies for defense, we need to consider only a few related generally to accuracy in target acquisition and guidance (TAG) to find direct and profound implications for deterrence.

The miniaturization of computers will likely revolutionize weapon systems during the next twenty years. Like the transistor that changed the shape of radios two decades ago, the "superchips" will probably change computers into small, compact units with tremendous capabilities. The effect will be the creation of "smart weapons" with high speed, real-time data processing, and memory storage that will provide pinpoint TAG.

In 1979, the U.S. Congress authorized $680 million for the very-high-speed integrated circuit (VHSIC) program. Phase One, which consisted of three subprograms managed by each of the three primary armed services, began in 1981 and terminated in 1985. Because the objectives of Phase One were met as expected, Phase Two has begun. The goal is to achieve new generations of silicon superchips that will greatly improve military computers for weapon systems.[6]

The VHSIC superchips will condense 100,000 transistors and circuits within a diameter of 1.25 microns (or 1.25 millionths of a meter). Present chips are roughly 3.0 to 5.0 microns in diameter, or comparable to the diameter of a human hair at 4.0 microns. As building blocks, VHSIC superchips can be designed into very large-scale integrated circuits (VLSI). The objective is to produce relatively small computers with signal and data processing capabilities 50 to 100 times faster than present military computers. These new computers not only will operate faster but will be smaller, simpler to maintain, easier to program and reprogram, and more reliable. Immediate applications include advanced avionics, electronic warfare (EW), and PGMs, as well as improvements in command, control, communication, and intelligence (C^3I) systems.[7]

In Phase Two of the VHSIC program, the goal is to reduce further the size of the superchips to 0.5 micron in diameter. This silicon chip could perform billions of arithmetic operations per second. The application to PGMs might mean virtual "zero CEP" (circular error probability).[8]

Meanwhile, the Defense Advanced Research Projects Agency (DARPA) is pursuing an alternative superchip technology with gallium arsenide. If they can be made to work, such chips could allow faster electron flow with less voltage and higher frequencies than silicon chips. While much progress still needs to be made, gallium-arsenide chips theoretically offer performance standards in excess of any silicon chip.[9]

Another avenue being pursued by both the private sector and the U.S. government is advanced circuitry fabrication. Lasers may be used to cut ultrafine circuits directly on wafers without requiring wafer division into chips. This emerging technology is known as "wafer scale integration" (WSI). If it works, WSI could combine hundreds of silicon chips and circuits into one wafer that could hold millions of transistors. The theoretical effect would be to reduce a room-sized mainframe computer to the size of a baseball.[10]

An excellent example of how computers can

be applied to weapon systems is the American cruise missile. The development of this type of missile dates back to World War II, but such missiles were not effective weapons until the introduction of small on-board computers for enhanced guidance in the 1970s. Because they fly at relatively slow speeds, cruise missiles require about six hours of continual guidance for a range of 5000 kilometers. This guidance can be achieved by sensors and computerized maps. Cruise missiles contain three or more accelerometers on gyroscope-stabilizing platforms as an inertial guidance system. They also contain one of three computer course correction systems. One is terrain contour matching, or "Tercom." In this system, a downward-looking radar altimeter records terrain contours. The data are compared with up to twenty terrain maps stored in the computer, which correlates the data and maps and then sends messages to the autopilot for needed course corrections. The second system is area correlation, which relies on microwave (or infrared) reflectivity of the ground for course data. The third system is global positioning, which receives data from satellites for guidance. These three types of guidance are so effective that cruise missiles with either nuclear or conventional warheads can achieve remarkable accuracy.[11]

Obviously, accuracy of the computer-stored maps and data processing is vital to the success of cruise missiles. The maps are obtained by computer-enhanced data from orbiting satellites. As the computers become smaller and more powerful, the quality and density of the maps and the data processing of the cruise missile computer will improve. If the current technological trend continues for another ten to twenty years, "zero CEP" may indeed become a reality. It is also possible that cruise missiles will be upgraded to mobile, intercontinental strategic missiles. Even in this decade, air-launched cruise missiles (ALCMs) from bombers, sea-launched cruise missiles (SLCMs) from submarines and surface ships, and ground-launched cruise missiles (GLCMs) in Europe constitute quasi-strategic weapons.[12]

In addition to advanced computer designs, software is being developed to accommodate the increased volume of data and to improve user capabilities. The most exciting emerging technology in programming is artificial intelligence (AI), or the development of "smart" computers with reasoning powers. Currently, the Department of Defense is the largest funder of AI research in the United States. One of its contractors, TRW, has already introduced a first-generation, although rudimentary, AI capability in a battlefield intelligence analysis system called BETA.[13]

Computers are not the only high technology available to enhance the accuracy of weapon systems. Sensor technologies, such as laser, infrared, microwave, and optical guidance systems, are being developed and deployed. These high technologies are now being applied to tactical weapons, and in the next ten to twenty years they are likely to be applied to strategic weapon systems, too. Improvements in these high technologies added to advancements in computer capabilities will sum to virtual "zero CEP."

While President Reagan's Star Wars proposal for high-energy lasers as weapons in space has captured public attention, small lasers for TAG are revolutionizing tactical systems. As early as 1972, the Pave Way program of laser-guided Mk 82 and Mk 84 bombs from U.S. aircraft was remarkably successful against enemy bridges in Vietnam. The Air Force claimed a "CEP no greater than twenty-five feet; guidance reliability at least 80 percent." Since then, laser-guided munitions have been greatly improved. They have been applied to the U.S. Maverick, Rockeye, and Bulldog air-launched antitank missiles; U.S. 155-mm and 8-inch howitzers; and experimental West German mortars.[14]

Infrared guidance relies on heat-seeking sensors to home on a target. It is particularly effective against targets that radiate considerable amounts of heat in the infrared spectrum, such

as aircraft and tanks. Infrared guidance has been applied to a new version of the Maverick antitank missile, the TOW surface-to-surface antitank missile, and the Redeye surface-to-air missile.[15]

A recent successful application of infrared guidance is the U.S. conventional missile to intercept incoming enemy nuclear warheads. The U.S. Army tested such a missile in June 1984. The success of the intercepting missile (and its fifteen-foot umbrella-like device that collided with and detonated a test replica of an incoming warhead) was attributed to its high-speed data processing computer and its heat-seeking sensors. The sensor was reported to be able to detect the heat of a human body from 1000 miles away.[16]

Other high-technology guidance systems include microwave, electro-optical, TV, and advanced radar. Several of these, along with lasers and infrared, have been combined on the same missile or bomb. Examples are versions of the Maverick (TV camera, laser, and infrared), the Walleye I and II air-to-surface missiles (electro-optical/TV camera), and the Redeye, Chaparral, and Stinger surface-to-air missiles (optical and infrared). These are but a few among many U.S. weapon systems that promise to achieve pinpoint accuracy through high-technology TAG.[17]

Beyond the high technologies of computers, sensors, and electro-optics emphasized here—which will unquestionably have profound impacts on weapon systems—are other high technologies that may also affect weapon systems. One area suggesting promise is the high technologies of materials, including composites, polymers, and ceramics. Revolutionary innovations could occur in the structure of aircraft and missiles, resulting in lighter, faster, and perhaps cheaper weapon delivery vehicles. Technological advances are also occurring in ordnance design to provide greater explosive power from nonnuclear substances.

During the next twenty years, high technologies will most likely be applied to quasi-strategic and strategic weapon systems. Cruise missiles have already been fitted onto long-range bombers, and many of them will likely be deployed by the United States on forthcoming

The shoulder-launched Redeye missile takes point air defense to the battlefield through high-tech target acquisition and guidance.

B-1B bombers. The Air Force may also attempt to mount cruise missiles on other types of aircraft. It is currently deploying ground-launched cruise missiles in Europe. The Navy is now in the process of acquiring cruise missiles for aircraft, submarines, and surface ships. The United States does not consider cruise missiles as strategic weapons, but improved performance may well make them such in the future. One very significant implication is that U.S. aircraft may not be required to attempt to penetrate enemy air defenses in the future but rather could perform as standoff launch platforms for cruise missiles and "smart" ordnance. Even at intercontinental ranges, missiles and their warheads are likely to become more reliable and more accurate as high-technology guidance systems are applied.

High technologies will be applied to other military systems besides offensive PGMs. Many will have applications throughout the range of C³I. Advanced computers will afford much greater depth of data processing and commu-

The Chaparral (left) and Stinger (below) provide state-of-the-art air defense in deployed ground units.

nications. Sensors will make satellite surveillance even more sophisticated than it is now. The combination of computers and sensors will allow many aircraft and ships to perform complicated C³I functions that they cannot perform well today. Thus, high technologies will provide the United States more reliable and more thorough warning and detection against attack as well as improved capabilities to communicate and control weapon systems.[18]

While many other high technologies and their potential military applications might be mentioned, even this brief survey demonstrates how high technology could change military hardware in fundamental ways.

The Implications for Strategic Missions

The application of high technologies for improved guidance and control of strategic weapon systems may have profound implications for strategic missions over the next twenty years. Many of these implications are not now obvious and will emerge only with time, but three areas already seem likely to be affected: countervalue missions, counterforce possibilities, and the strategic defense in Europe. Another possible application could be the strategic defense of the United States itself, but that realm appears to require a huge research and development effort and is doubtful to produce operational systems before 2004.

As the Air Force Directorate of Intelligence concluded by 1948, nuclear explosions have such great destructive power that just one of them can level a whole district of a city, if not a whole city. Nuclear explosions cannot differentiate between factories and residential neighborhoods or between property and people. The countervalue strategy of knocking out enemy industrial and economic targets with nuclear weapons necessitates killing thousands of civilians regardless of whether that result is desired or not. In addition, the collateral effects of uncontrollable fires and downwind radiation will pollute the atmosphere and endanger life miles downwind. The cumulative effects of nuclear detonations, therefore, pose many moral, humane, environmental, and political dilemmas beyond strictly military concerns.

On the other hand, the precision guidance of the high technologies may make countervalue targeting with conventional explosions far more plausible than with nuclear weapons. Highly accurate cruise missiles, bombs, and other high-technology ordnance might hit industrial and economic targets in an enemy urban area with high assurance of "target kill" and relatively few collateral effects. The killing of thousands of people might be avoided. High-technology precision weapons would not require saturation bombing like that which the Allies inflicted upon German and Japanese cities in World War II. Such a strategy of precision bombing would require hundreds, if not thousands, of ordnance units and many launch vehicles, however. If the United States were to go to this strategy, it would have to have an arsenal of weapons significantly greater in number than the relatively few strategic nuclear delivery vehicles and warheads currently relied on.

To return to Brodie's 1946 observation concerning the utility of atomic bombs, the destructive power of nuclear weapons is so great as to limit their use to a very few high-consequence situations. The development of high-technology weapons, however, could change the doctrine of war avoidance to war waging. Such weapons will offer many kinds of military uses both tactical and strategic, in addition to their value for deterrence. By reducing the fears of nuclear warfare, high technology may make strategic countervalue missions more "attractive" from a military operational perspective. At the least, high-technology weapons may prove more applicable for limited war and power projection than nuclear weapons are.

As the accuracy of strategic weapons improves, so too will the "hard target kill" capabilities of strategic counterforce weapons. The

trend of the last twenty years has been to decrease the yields of nuclear weapons as accuracy has improved. The lower the CEP, the lower the explosive yield required to destroy a hard target. High-technology strategic TAG may allow the possibility of destroying some hard military targets—perhaps even intercontinental ballistic missile (ICBM) silos and reinforced command centers—with small nuclear warheads (maybe ten kilotons or less) or maybe even conventional ordnance. Any nuclear warhead will produce some fallout, but the amount of residual radiation could be greatly reduced if warheads with smaller yields were used.

Currently, a major counterforce nuclear attack on ICBM silos would release enough fallout to endanger the lives of millions of civilians as far away as a thousand miles downwind of the targets. For example, a Soviet nuclear attack on American silos in Wyoming would probably produce enough radiation (450 rems) to endanger the populations of Chicago and Detroit. A similar attack on silos in Kansas and Missouri would threaten the residents of Kansas City, St. Louis, Louisville, Cincinnati, and perhaps even Washington, D.C.[19] Similarly, if the United States launched a major counterforce attack on Soviet missile silos in the western U.S.S.R., it might produce enough radioactive fallout to kill thousands, if not millions, of people in the vicinity of Minsk, Kiev, and Moscow.[20] Because of such collateral radiation effects on civilian populations, no purely counterforce strategy with current nuclear weapons is possible. With high technologies, however, pinpoint accuracies and low yields or no nuclear yields may allow a nearly pure counterforce targeting option.

With high-technology TAG, conventional explosives could be used for dozens of relatively "soft" enemy military targets, such as shipyards, ports, surface ships, airfields, army posts, depots, tank formations, troop concentrations, transportation lines, and communications networks. Resorting to nuclear weapons for many such military targets may not be necessary.

As nonnuclear ordnance with high-technology TAG replaces nuclear warheads, American military planners may consider the redistribution of strategic forces. Currently, U.S. strategic nuclear delivery vehicles (SNDVs) number about 1900 and are concentrated in ICBM silo fields, U.S. air bases, and strategic submarines. Under one option, some SNDVs may be converted to nonnuclear weapons while remaining relatively centralized in deployment and intercontinental in range. Under another option, however, there may be little need for centralized strategic vehicles because thousands of fighters, fighter-bombers, cruise missiles, and nonnuclear ballistic missiles will become capable of strategic missions against the Soviet Union.

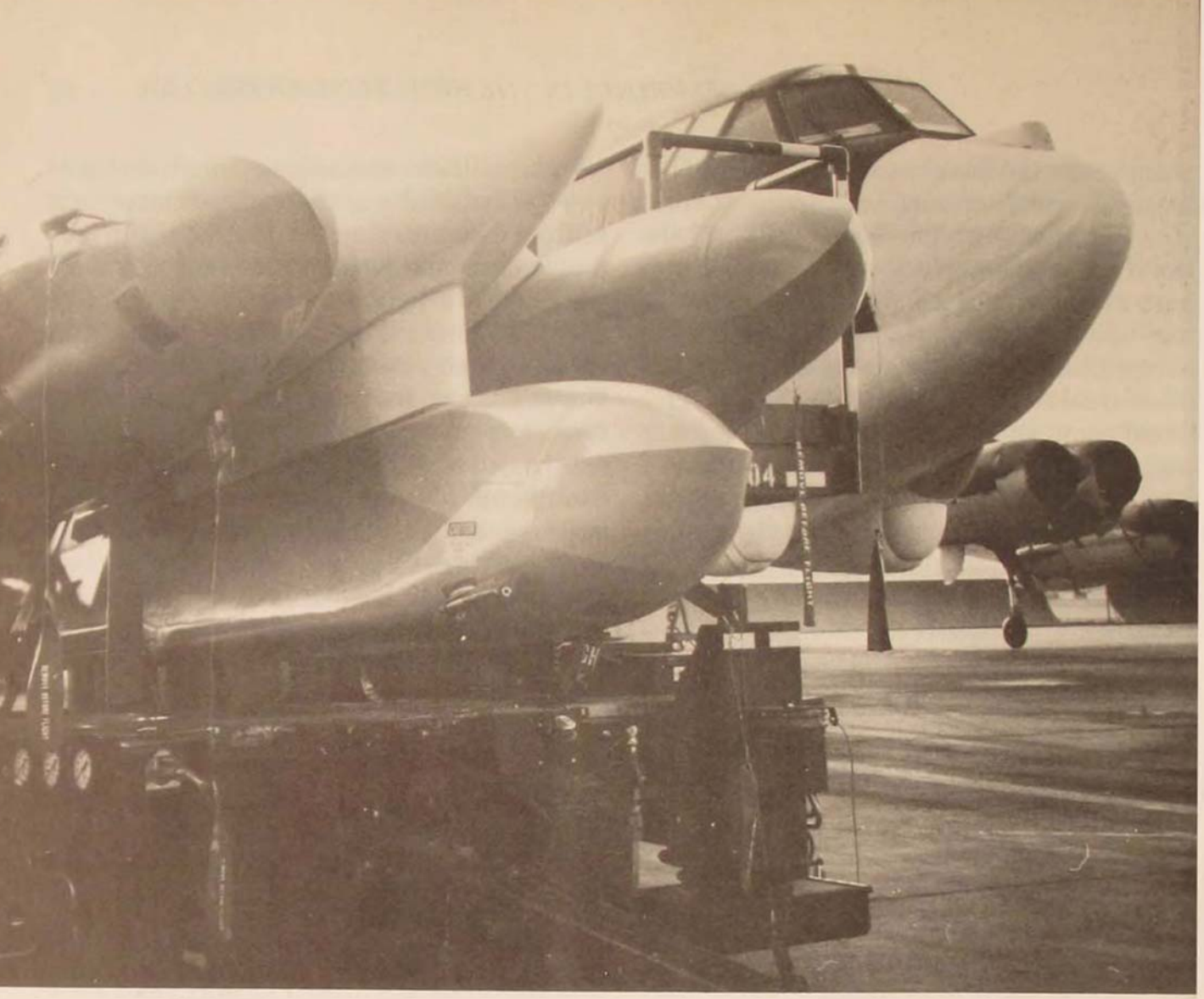
Another arena for high-technology systems is the defense of Western Europe. One champion of high-technology conventional warwaging capabilities is General Bernard W. Rogers, who has been the Supreme Allied Commander Europe since June 1979. In 1982, he stated:

> We must not delude ourselves—NATO's continuing failure to fulfill its conventional needs means that we now must depend upon the use of theater nuclear weapons to accomplish our missions of deterrence *and* defense.[21]

General Rogers then offered a possible solution to the dilemma of Western reliance on nuclear weapons for the security of Western Europe:

> There is a more acceptable alternative to this posture, namely to acquire a conventional capability that would provide a good prospect of success in the forward defense of Europe. . . . The concept for the conventional destruction of the [Warsaw] Pact follow-on forces has been developed by the Supreme Allied Command (SHAPE). . . . Meanwhile, major efforts must be expanded to encourage nations to develop and procure the advanced technological targeting and weapon systems that will make the application of the concept most effective.[22]

Along with high-technology weapon systems, General Rogers advocates a strategic modification that is known as Deep Strike.



Air-launched cruise missiles (above) on a B-52G have extended the service life of the aging aircraft and provided a new dimension in employing strategic air power, stand-off attack capability. . . . The AGM-65E Laser Maverick (left), here mated to a Marine Corps AV-8B, provides Marine and Air Force ground support aircraft with precise tank-killing capability. . . . The AIM-7, shown being fired from an F-15 (facing page), gives U.S. air superiority fighters the high-tech edge.

This is an early example of shifts in military strategy due to the new high technologies. In this strategy, NATO forces not only would attempt to halt invading Soviet forces but also would counterattack with PGMs against the enemy's deep rear to disrupt supplies and reinforcements. General Rogers asserts that the high-technology weapon systems and the Deep Strike strategy are needed to deter war, wage it if necessary, and place the burden of escalation to nuclear weapons on the shoulders of the Soviet bloc rather than on NATO.[23]

In April 1984, the NATO Conference of National Armament Directors agreed to concentrate efforts on eleven new defense systems, including electronic aircraft reconnaissance systems for TAG and computerized nonnuclear munitions. However, the list did not include certain "emerging technologies" (ET) advocated by Secretary of Defense Caspar Weinberger and associated with the Deep Strike strategy, which has become somewhat controversial in Western Europe.[24] The debate concerns the issues of "decoupling" the defense of Western Europe from that of the United States (i.e., breaking the link between deterring a Soviet attack upon Western Europe and upon the United States itself). On the one hand, the Europeans want nuclear weapons to deter the Soviets, but on the other hand they do not want nuclear weapons ever to be used in Europe. Even some American defense analysts have challenged the effectiveness and political desirability of high-technology weapon systems and the Deep Strike because they may stray too far from the goal of deterrence, which is now firmly based on nuclear weapons.[25]

In the meanwhile, NATO is reducing the number of deployed tactical nuclear weapons. In October 1983, NATO decided to replace nuclear-tipped Nike Hercules missiles with a conventional Patriot antiaircraft missile. There will also be reductions in nuclear mines and nuclear 155-mm and 8-inch artillery shells. In all, the United States will phase out approximately 1400 nuclear warheads in Europe. These reductions are not so much related to unilateral disarmament as they are to the early deployment of high-technology conventional weapon systems.[26]

The doctrinal dispute concerning high-technology weapons in NATO is indicative of the uncertainty of their impacts on deterrence. If the United States were to reduce its nuclear arsenal in favor of high-technology conventional weapons, would it be reducing also the fear of nuclear war that is the essence of deterrence? Could there be deterrence with few or no nuclear weapons? Do high-technology weapons make a major war more or less likely to occur? These questions need to be addressed in order to assess the implications of high-technology weapons and missions for deterrence and the future security of the United States.

Implications for Deterrence

In his 1976 paper, Brodie observed:

> In short, there seems not to be any direct proportionality between technological change and military-political consequences, even though we acknowledge that historically there has been a close relationship between the one and the other.[27]

Brodie's conclusion was that military doctrine and strategic thinking usually trail technological innovations and they change much more slowly than the instruments of warfare. If his generalization holds for high technology, then the new systems are likely to be developed and deployed before the doctrine and strategy of how to use them mature. Thus, the concept of deterrence is likely to remain (although it may be modified) during the next twenty years, while high-technology systems are tested and refined.

In addition to traditional military doctrinal conservatism, there are two reasons why deterrence will probably continue for the next two decades. One is that new technologies are most often developed to fulfill established mission requirements faster and better than available technologies. It is only after new technologies are deployed that their capabilities suggest new applications and missions. In this case, new missions for the high technologies being developed may not be apparent for one or two decades. In the meanwhile, the doctrine of deterrence is most likely to remain largely intact.

The second reason for the maintenance of deterrence to 2005 is the continuation of national defense objectives and policies. The high technologies are not likely to change basic American values in the short run. The United States will still wish to preserve its national security, to maintain peace in its relationship with the Soviet Union, and to contain Soviet political and territorial aggrandizement. General Rogers's desire—to make high-technology weapon systems serve to strengthen the spectrum of deterrence against all degrees of Soviet military provocations—might well be affirmed as a national goal.

In the short range, to 2005, high technology may change the implementation of deterrence, however. High technology will probably affect countervalue and counterforce targeting strategies. It may also alter NATO defensive plans. In addition, it could decrease the quantities of nuclear delivery vehicles and warheads but also greatly increase the numbers of nonnuclear weapon systems and bombs.

If high technology were to change the concept of deterrence, it is much more likely to occur after 2005 than before. It is still too early to estimate what doctrinal changes may occur, but the central question is whether strategic high technologies will cause radical departures from deterrence. The present expectation is that they will not. There are six reasons for believing that high technology may alter missions and tactics but not make the waging of war more desirable than maintaining security and peace through deterrence.

The first reason for the continuation of deterrence past 2005 is the expectation that high-technology strategic weapon systems will never fully replace nuclear weapons. Initially, high-technology weapons will be deployed to replace low-technology tactical and theater systems. Then they will be deployed in larger numbers to supplement strategic weapons. Finally, they will probably replace significant numbers of strategic nuclear weapons. But they are not likely to replace all nuclear weapons. The United States and the Soviet Union, too, will probably retain some nuclear systems just to guard against the ultimate challenge. General Rogers recognized this situation when he commented in 1983 that "we would always want to preserve the possibility of a nuclear response in order to convince a potential aggressor that the risks of aggression outweigh any potential gains."[28]

High technology will have a substantial impact on nuclear arms control. It already has. Cruise missiles created numerous negotiation

problems between the United States and the Soviet Union in SALT II, which resulted in a compromise to count nuclear cruise missiles as multiple warheads rather than as strategic nuclear delivery vehicles.[29] The difficulty in verifying compliance on numerical limits on cruise missiles is that conventional ones appear externally the same as nuclear ones. If high-technology weapons were to replace some nuclear systems and their external configurations were to remain the same, then they will greatly complicate nuclear arms control. On the other hand, to the extent that they replace nuclear weapons and appear different, high-technology systems may facilitate nuclear arms control. It is possible that, by 2005, the ceiling on strategic nuclear delivery vehicles may drop to relatively low levels, but the total number of nonnuclear strategic delivery vehicles will probably increase greatly.

A second reason for the continuation of deterrence in the high-technology era might be the maintenance of a technology balance between the United States and the Soviet Union. Although the United States appears to be ahead in several high technologies, especially advanced computers, the Soviets undoubtedly will strive to match American advancements. Currently, they are catching up in cruise missiles and infrared sensors. They have been working on high-energy and laser weapons for years. The Soviets have already indicated a strong interest in conventional high-technology weapons and their strategic implications, especially in Europe.[30] The technological balance between the United States and the Soviet Union has been an important component of deterrence, and it will likely remain so in the high-technology era.

A third circumstance that may contribute to continued deterrence is the likely development of high-technology defenses and countermeasures. Brodie asserted as early as 1946 that defenses against nuclear weapons were unlikely to be effective. Although some progress has been made in that area in the last four decades, Brodie was largely correct. But this lack of progress in the defensive areas will not necessarily characterize high-technology weapons. Indeed, some of the high technologies were developed as defensive systems. Laser, infrared, and microwave systems can be used to counter other weapons. Computers will be used both offensively and defensively. Other measures are now being developed to confuse and distract high-technology TAG, such as smoke screens, radar and heat decoys, optical and electronic jamming, etc.[31] The potential balance between high-technology offensive and defensive systems may deny a net military advantage to either the United States or the Soviet Union and thereby perpetuate deterrence.

A fourth factor promoting prolonged deterrence may be the economics of high technology. Some analysts have estimated that tactical high-technology weapons are significantly less expensive than their targets; for example, a missile costing $3000 can destroy a tank costing $500,000. This calculation has led to the conclusion that high-technology systems will be more economical than low technology and perhaps result in some savings in defense expenditures.[32] However, the opposite impact seems more likely. The research, development, testing, and evaluation costs of high technology will be high. Manufacturing costs are also likely to be high, especially if the rate of progress increases so that systems become technically outdated before they are fully deployed. There may be significant increases in the numbers of high-technology weapons and launch vehicles, and this trend will drive military expenses up. On the whole, the transition to the high-technology era may be very expensive. These high costs may tend to reinforce deterrence rather than negate it, since war avoidance would be much less risky and expensive than war waging.

Another factor reinforcing deterrence is the constant military fear of losing. The fear of nuclear effects is perhaps the most important inhibitor to using them. This fear is compounded by the fear of not achieving political

This imaging infrared missile represents another target acquisition and guidance capability from emerging technologies.

and military objectives by using them. High-technology systems might reduce, although not eliminate entirely, the fear of employing nuclear weapons, but they may not alleviate the fear of losing. Lingering doubts about technical performance and reliability in real combat environments, the prospects for a high-technology balance between the United States and the Soviet Union, and the balance between offensive and defensive systems will combine to make war a risky venture in the future, as it always has been in the past.

Finally, deterrence is not a function of technology alone. Rather, it is more a function of Soviet-American political relations. After all, it was the American fear of a Soviet invasion of Western Europe that first led to the doctrine of nuclear deterrence. Likewise, intercontinental bombers and missiles were developed to deter a suspected Soviet attack on the United States itself. Deterrence was designed to cope with the Western perception of hostility and malevolence from the Soviet Union. The Soviets, in turn, have feared the "imperialist" challenge to them. The core of deterrence is the psychology of Soviet-American political competition, of which both nuclear and high-technology weapon systems are the reflection. High technology most likely will not make war any more desirable than the nuclear regime because deterrence is still the best way to manage Soviet-American rivalry. On balance, nothing short of a fundamental change in Soviet-American attitudes toward one another is likely to change the need for deterrence.

For these six reasons, the most likely expectation is that high-technology weapon systems will not radically alter the concept of deterrence. It will change the characteristics of strategic weapon systems profoundly, and it will change targeting strategies in the long run, but it is not likely to change the fundamentals of deterrence.

However, if these reasons for the continuation of deterrence do not hold for the future,

then high-technology weapon systems could change the nature of deterrence. One possible outcome is a shift to a launch-on-warning second-strike deterrence. Another is a shift to preemptive attack, in which either the United States or the Soviet Union might commence an attack in the expectation that the other is going to attack. In either of these cases, crisis management to prevent military action will become more, rather than less, difficult. If high-technology weapon systems were to reduce the fear of the consequences of war and make the military option more attractive than nuclear weapons afford, then deterrence might give way to historical doctrines of military superiority and the use of force to achieve political objectives.

Certainly, high-technology weapon systems will change the characteristics of military forces. While there might be little or no increase in the number of strategic nuclear delivery vehicles, there will be a great increase in nonnuclear strategic delivery vehicles. Indeed, the line between strategic vehicles and nonstrategic ones will become very blurred because of multipurpose weapon systems. Bombers, fighters, cruise missiles, and various PGMs might be either strategic or theater-tactical, depending more on missions assigned than on technical characteristics. Also, high-technology forces may be used for limited war and power projection to a far greater degree than nuclear weapons could be. High-technology weapon systems may not increase the probability of a major war between the United States (with the United Kingdom, France, and West Germany) and the Soviet Union, but they may increase the probabilities of limited military conflict between the Great Powers and less technically developed countries. High-technology weapons will probably encourage a trend to smaller, more mobile strike forces with an emphasis on maneuverability, surprise, and firepower.

IN 1976, Bernard Brodie argued that technological innovations in weapon systems have profound, though not immediate, impacts on strategic concepts. He was one of the earliest commentators on the political and strategic implications of nuclear weapons, and even his early observations of 1946 continue to have relevance to the nuclear regime of the 1980s. Presently a new era is emerging with high technologies, and their applications to offensive and defensive weapons will probably change strategic concepts in the future. The employment of advanced computers and laser, infrared, microwave, and other types of high-technology sensors will improve target acquisition and guidance significantly. Improvements in guidance will lead to modifications in targeting strategies, which, in turn, may change strategic thinking.

In the short run, over the next twenty years, the high technologies will probably have profound impacts on tactical and theater weapon systems and missions. They will probably not have as great an influence on strategic systems, except for the possible development of high-technology conventional weapons to replace nulcear weapons in some missions. In the long run, however, high technology could have a great impact on the characteristics, numbers, and missions of strategic weapon systems.

High technology will probably not alter the basic concept of deterrence for six reasons: the likelihood that some strategic nuclear weapons will remain; the possibility of a Soviet-American high-technology balance; increased high-technology defenses and countermeasures; high costs; the fear of losing a war; and the continued Soviet-American political rivalry. High technology may change many aspects of war planning and missions strategies, but it is not likely to change Soviet-American relations and the need for deterrence to manage conflict and avoid war.

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THE F-20: SAGA OF AN FX

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AMERICAN arms transfers emerged from World War II as a means of assisting friendly countries while eliminating surplus weapons and equipment from the U.S. arsenal. As the world economy recovered through the 1950s, the United States attempted to shift more defense responsibilities to its allies. By the 1970s, the United States had moved almost entirely from military grants to sales, especially after the Foreign Military Sales Act of 1968. With the oil crisis and resulting global instabilities of the 1970s, arms sales boomed and American companies became increasingly dependent on foreign sales for their survival.[1]

During this period of growing foreign military sales (FMS), the Department of Defense (DOD) and the State Department eagerly cooperated to combine sound foreign policy with good economic benefits.[2] While sales grew, however, neither the Nixon nor the Ford administration had a coherent FMS policy. The long-term strategic interests of the United States were never apparent within the context of these foreign sales.[3]

In 1977, President Carter made an attempt to restrain and control U.S. arms transfers with a new policy. He stated that the United States could not be "both the world's champion of peace and the world's leading supplier of the weapons war."[4] Tied to this new transfer policy were multilateral talks with other arms suppliers to curb the spread of new weapons.[5] These talks failed to achieve any positive results, however. Finally, in 1980, President Carter, realizing that his arms transfer policy was too restrictive to allow for foreign policy options, made an exception to the policy.[6] His decision to allow production of an FX was a way of discouraging foreign purchases of highly sophisticated U.S. aircraft while still meeting the valid defensive concerns of friendly nations.[7] This decision initiated the development of both the F-5G fighter aircraft by the Northrop Corporation, now redesignated the F-20 after many modifications, and the F-16/79 fighter aircraft by General Dynamics.[8]

Northrop Versus U.S. Government Views

President Carter's 1977 arms transfer policy specifically stated that the United States would not be the first supplier of advanced weapon systems into a region and that it would not allow deployment of any system not already in the U.S. inventory.[9] Northrop's F-5E, which had been exported through FMS and was already in the U.S. inventory, met these criteria, so a development project was started to upgrade the aircraft to meet the changing nature of the Communist threat.[10] DOD had, in fact, requested designs for a newer version of an aircraft like the F-5E to fill Taiwan's need for a new, low-cost fighter.[11] According to a report to the Senate Foreign Relations Committee in the fall of 1977 (six months after President Carter's new policy had been implemented), the new policy was more rhetoric than fact because arms transfer had continued on a routine basis.[12] The potential importance of the Northrop sale to Taiwan was seen as a very significant factor in maintaining Northrop's viability as a major aircraft producer; therefore, the continuation of arms sales abroad was encouraging to the company.[13] Thus, Northrop was shocked when, in 1978, President Carter denied the proposed sale of F-5Gs, particularly since Taiwan already had some F-5Es in service. The Carter administration considered the newer F-5G to be too sophisticated for the defense needs of Taiwan.[14] Northrop, realizing that the commercial incentive of the F-5G program was not being politically backed by the government, deemphasized the entire project. The Carter administration's inconsistent signals to Northrop resulted in a delay in the evolution of the new intermediate export fighter.

The next critical example of the Carter administration's failure to follow its own arms transfer policy came about as a means to clinch the Camp David agreement. The 1978 Middle East package deal—which included the sale of 200 combat aircraft, mostly F-15s and F-16s, to

Egypt, Israel, and Saudi Arabia—opened the door for Third World countries to request our front-line fighters.[15]

To further complicate the export market, the multilateral talks on arms restraint had broken down with no agreements; and other suppliers, such as France, had simply filled in the void created by U.S. sales reductions.[16] Northrop, which had sold more than 2500 F-5 fighters worldwide during the 1960s and 1970s, suddenly was without a competitive product.[17] Barry N. Blechman, Assistant Director of the Arms Control and Disarmament Agency, testified before Congress that the U.S. reductions in foreign arms transfers had actually encouraged other nations and increased worldwide arms sales.[18] The ultimate decision in any arms transfer policy was finally being recognized as necessarily political in nature.[19]

A State Department report in late 1979 concluded that a new export fighter was absolutely necessary to stop more countries from turning to front-line aircraft. Also, the availability of such an aircraft would give the United States a more flexible foreign arms transfer policy to deal with friends and allies.[20] In January 1980, after months of interagency study, President Carter decided to waive part of his 1977 arms transfer policy to permit development of a new export fighter (FX).[21] The new aircraft was to have capabilities between the F-5E and current U.S. front-line fighters such as the F-16A.[22] As conditions to this development effort, the government would not provide funding support, and the contractor would assume all financial and market risks. In addition, the aircraft could be sold only on a government-to-government basis through existing FMS procedures.[23] The fact that President Carter's policy restricted the effort of front-line aircraft seemed to assure a market for the FX.[24] In contradiction with this assumption, however, was the guidance to all U.S. government representatives abroad that they could not initiate discussions on FX purchases (standard policy) but only respond to requests for information.[25] This caveat should have been a good indicator of the limited government support for the FX program.

To meet the FX policy guidelines and be competitive in the FX arena, Northrop resurrected its dormant F-5G program.[26] More guidance was received from the U.S. Air Force, which, in March 1980, was appointed by the Secretary of Defense as the executive agent to manage the FX program.[27] The key factor in the developmental effort by Northrop was extensive research into newer avionics and engine technology, which was then used in the construction of the updated version of the F-5G. Totally financed by Northrop, this aircraft became the first major weapon system developed in more than half a century that was not directed and funded by the government.[28]

On 8 July 1981, President Reagan signed National Security Decision Directive No. 5, which superseded President Carter's arms transfer policy.[29] Where President Carter preferred to view arms transfers as exceptional foreign policy implements, President Reagan chose to consider them an indispensable component of U.S. foreign policy and an essential element of our global defense posture.[30] The FX policy was kept intact, and further development was even encouraged, with emphasis on less costly and sophisticated alternatives to our front-line fighters.[31]

An additional indication of the Reagan administration's support for the FX concept was given by Under Secretary of State James L. Buckley during testimony before the Senate Foreign Relations Committee in July 1981. His statements explicitly supported the FX concept and encouraged production of the aircraft.[32] For the first time, however, concern about the potential viability of the FX program was expressed in a congressional report to the same committee.[33] Countries such as Pakistan were requesting front-line fighters to counter perceived Soviet threats, and a "momentous policy reversal" was seen as a possible result.[34] Late in 1981, this latter perception was magnified when South Korea signed a letter of offer for

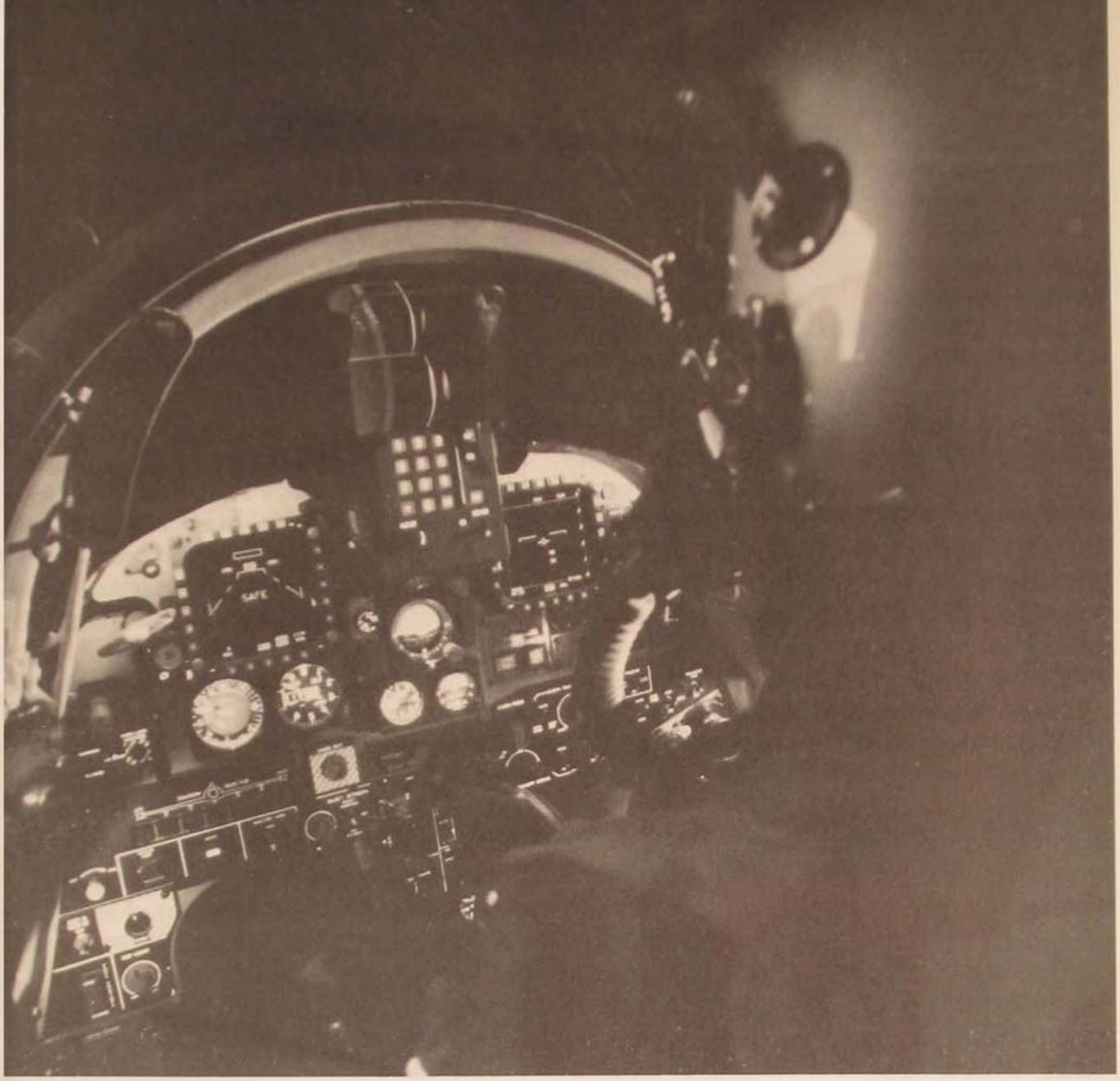
Maintainability is a vital factor in the military equation. Northrop claims that the F-20 would require only 416 pounds of spare parts in a month-long deployment. Incorporated in the avionics system and the cockpit layout (facing page) is advanced electronics technology designed to provide highly reliable capability.

thirty-six F-16s, with delivery to begin in 1986.

Encouraged by President Reagan's new FX policy, however, Northrop actively pursued the potential sales of F-5Gs to Taiwan, which, in conformance with Carter administration preferences, had not agreed to buy more F-5Es. This time, President Reagan rejected the proposed sale because of the improving U.S. relations with the People's Republic of China. Northrop was still not able to open up its production lines.[35]

Secretary of Defense Caspar W. Weinberger, in March 1982, directed the Air Force and Navy to select one of the two FX aircraft jointly for purchase by October 1982. (This direction was later rescinded.) The Special Defense Acquisition Fund (SDAF) was proposed to be used for the purchase. While both Northrop and General Dynamics were developing FX aircraft, Weinberger's selection criteria closely paralleled the design characteristics of the F-5G, leading to speculation that Northrop would soon be able to go into production.[36] Even before the services could proceed very far with their selection process, the House Foreign Affairs Committee voted to preclude the use of SDAF funds for the FX.[37] Once again, FX hopes dimmed.

Further complicating the support of both the FX and Northrop was an uncertainty within the government about its true role in the arms transfer arena. On one side was an effort to reduce the emphasis on exporting military aircraft. On the other side, Deputy Secretary of Defense Frank C. Carlucci was encouraging more sales. In the summer of 1982, Carlucci sent a memorandum to the Air Force



and Navy charging them to actively encourage potential foreign customers to procure FX aircraft.[38] Then, only four months after the first memo, Carlucci sent a classified memo to the services abandoning the FX policy and opening the door for the sale of front-line fighters to other countries.[39]

With these mixed signals coming from the Reagan administration, Northrop was obviously quite worried that its aircraft with the FX label would possibly have to compete with front-line fighters. In November 1982, Northrop requested that the F-5G be redesignated the F-20, reflecting the extensive changes since its inception and hoping to give it a new image.[40] In December, Carlucci reversed himself again, after prompting from the White House, and directed the Air Force to fund a small number of F-20s in the fiscal year 1984 budget.[41] This purchase was supposed to be enough to get the F-20 production line started while also displaying government backing for the aircraft.[42] Once again, the FX was being pushed for export.

The question of possible favoritism toward Northrop was raised when General Dynamics, Northrop's FX competitor, complained about White House support for the F-20 and the drive for foreign orders. The Reagan administration

reportedly was endorsing the F-20 because of the aircraft's anticipated simplicity of operation and lower maintenance costs.[43]

Directly on the heels of these developments came a blow to Northrop's program: approval for the sale of F-16As to Pakistan. In December 1982, President Reagan, reacting to the Soviet invasion of Afghanistan, agreed to an economic and military aid package for Pakistan that included the expedited delivery of F-16As. This decision was the first break in U.S. policy allowing front-line aircraft to be sold outside the circle of NATO, South Korea, and the Camp David agreement countries. The Third World saw the opening, and soon most U.S. friends and allies began requesting only "the very best."[44] The perception that the "exceptions" to President Reagan's arms transfer policy were becoming the rule was reinforced when Venezuela was allowed to purchase F-16A aircraft in 1983.

As it became evident that arms sales were domestic, political, and foreign policy issues which were dissolving any viability left in the FX program, Northrop's dilemma continued.[45] The company had remained committed to the development of the F-20, still totally at company cost, and had a prototype aircraft to prove how truly sophisticated an aircraft it was. In many respects, the F-20 was equal to or better than U.S. front-line fighters, yet it was stuck with the FX stigma.[46]

Northrop signed a Memorandum of Agreement with the Air Force in May 1983. This agreement appointed the Air Force as executive agent responsible for certifying the F-20's performance, air worthiness, and fixed-price program.[47] Northrop hoped that this USAF involvement would help convince countries to purchase the aircraft. But another blow to Northrop's efforts came later that year: the U.S. government made a financial commitment to help Israel develop its own new fighter, the Lavi. Northrop objected to this assistanee because the aircraft would be a potential competitor in the export market. Also, Northrop argued, while Northrop alone had funded its F-20 program, here the government was subsidizing a foreign competitor.[48] Congressional support for Israel prevailed, however, and Northrop had lost yet another battle.

The F-20 program had progressed quickly, and by early 1984, the aircraft had proved itself to be an outstanding fighter. The F-20 displayed the fastest time of any fighter in the world.[49] Why, then, were foreign countries refusing to purchase the aircraft? The answer lies in four factors: the lack of an active production line, the failure of the government to buy the aircraft, the availability of advanced foreign aircraft such as the Mirage 2000, and the potential availability of U.S. front-line aircraft.[50] Without the aircraft in service somewhere, the question of logistics support was also unanswered. Because of all these uncertainties, countries were not ordering the aircraft.[51]

Congress got further involved in the FX issue by conducting hearings in March 1984. William Schneider, Jr., Under Secretary of State, for Security Assistance, Science and Technology, testified that continuation of the current FX policy might not result in future sales. He further stated that the government had been promoting the sale of FX aircraft and had also encouraged the FX manufacturers and their developmental efforts.[52] The real caveat of his testimony, however, came when he confirmed that the sale of military equipment was not entirely a commercial venture but rather an instrument of foreign policy.[53] An obvious question was not addressed: Why encourage manufacturers to risk their own funds when they have very little, if any, control over sales policies?

The Chairman of Northrop, Thomas V. Jones, voiced this and other concerns when he testified before the same congressional committee. Jones accused the government of not actively seeking out customers and not showing comparison data between the F-20 and other fighters to interested customers. His recommendation to the committee, given that

front-line aircraft would continue to be sold worldwide, was to discard the FX policy and let all aircraft compete for the foreign market.[54] At least such a move would give Northrop a chance to compete—something it felt it could not do under the FX stigma. Concluding congressional remarks from this committee accused the State Department and DOD of FX policy rhetoric that had not been actively supported.[55]

Additional support for Northrop's position came from Brigadier General Thomas Baker, Hq USAF Director of International Programs, who testified before Congress in March 1984. He stated that the U.S. Air Force was not actively marketing the export fighter.[56] Reinforcing this statement was the fact that during the previous four years (1980-84) more than 1100 U.S. fighter aircraft had been sold to twenty-nine countries, yet not one had been an FX.[57] As large as this total was, however, it represented only one-half of the total aircraft sold abroad during the Carter administration. Other countries, such as France, were supplying the rest.[58]

As a possible response to growing congressional pressure, the Air Force was directed in April 1984 to promote the FX more actively. Specific comparison briefings were given to several potential customers during May and June of 1984, detailing the excellent (but limited) performance and cost advantages of both the F-20 and F-16/79.[59] Still, the Reagan administration's decision to make an exception to the FX policy—as it had done for South Korea, Pakistan, and Venezuela—made the sale of an "export fighter" to countries difficult, regardless of the quantifiable benefits, when the possibility to purchase front-line aircraft existed.[60]

The Air Force, which had participated extensively in the operational testing of the F-20, published an internal report in late June 1984, summarizing the status of the program. The F-20 was characterized as having outstanding performance against all threats anticipated in the export market. It was a viable candidate for upgrading the tactical air force aggressor units —a requirement that had been stated by the services earlier in 1984. The report also stated that the F-20 had been contractor-funded, totaling more than $750 million, compared to $60 million for the F-16/79. In addition, General Dynamics had leased from the Air Force a modified F-16B, which was then used for the developmental testing. The conclusion of the report was that the F-20 was an excellent aircraft but that the potential market was small to nonexistent.[61]

Through the fall of 1984, articles and news reports about the F-20 placed more pressure on the government to do something. The Department of Defense was accused of ignoring the F-20 and even trying to dissuade foreign customers from buying it because it had not been developed by the Air Force.[62] Even Northrop complained a little, stating that although the F-20 had been produced at government invitation, the F-16A was being pushed by the Air Force for overseas sales. According to Northrop, the government receives money back from every buyer for each F-16A exported; these funds are a recoup of research and development costs, and they lower the unit cost for each U.S. purchased aircraft.[63] Northrop did not complain too strongly, however, because the Air Force holds a trump card that Northrop very much wants. The new Stealth bomber contract is potentially worth billions more than the F-20 program. The company cannot afford to push too hard on the F-20 issue, or it might risk cancellation of its part of the Stealth contract.[64]

The Air Force, in explaining the lack of F-20 sales, says that the aircraft was developed as a private venture for export and was never intended for U.S. use.[65] Of course, we should remember that front-line aircraft were to be restricted from foreign sales, thus creating a market for the FX. The frequent exceptions to policy may have implied changes in the other ground rules.

In one last effort to save the FX concept, Congress directed the Air Force and the Navy to

study the merits of a common purchase for a new aggressor aircraft.[66] In November 1984, while the Navy asked for proposals and bids for its aggressor aircraft, the Air Force had not yet decided what to do. A potentially fatal blow was struck to Northrop when, in January 1985, the Navy selected a specially configured version of the General Dynamics' F-16 for its aggressor aircraft. The aircraft was rumored to have been sold at a loss just to keep Northrop's F-20 out of the U.S. market.[67] Obviously, any joint purchase with the Air Force has now disappeared.[68]

One Air Force program in which the F-20 might still be considered is the Air National Guard (ANG). Older F-4s will soon be replaced in the air defense role, and the F-20 is a consideration; however, F-15s and F-16As are already in the out-year buys for the ANG. The possibility of changes now appears quite remote.[69]

THE future of the FX policy and the F-20 is now unclear. As of March 1985, the Joint Chiefs of Staff and the Secretary of State were reconsidering the policy and their recommendation to President Reagan. The government's changing FX policy has obviously slowed acceptance of the F-20 by potential customers. President Carter's original arms transfer policy specifically placed the financial responsibility on the FX developer, yet the government's perceived encouragements to Northrop and inconsistent implementation of FX policy may very well lead some people to believe that the government is at least morally obliged to remedy the situation.

Hq USAF

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SOME THOUGHTS ON CLAUSEWITZ AND AIRPLANES

MAJOR JAMES B. SMITH

THE current fascination for Clausewitz among American military writers intrigues me. Consider for a moment the resurgence in the study of Clausewitz and the proliferation of ideas in Clausewitz's name. Dozens of articles have appeared in professional journals over the last decade dealing with everything from nuclear weapons to electronic combat and using Clausewitz as their guiding prophet. For example, Clausewitz has been quoted more than forty times in *Air University Review* alone in the last five years.

I must confess, however, that in my ten years-plus of flying, Clausetitz's name has not once come up in a squadron briefing room. Further, he never helped me write a staff summary or develop an OPlan in an entire tour on a MAJCOM staff. Thus, the inevitable question for this aviator became: What has Clausewitz got to do with airplanes?

While Clausewitz has little apparent day-to-day applicability at squadron or wing level, his ideas have influenced profoundly what U.S. Air Force squadrons and wings do. It is worthwhile examining how and why this came to be. This article explores two aspects of Clausewitz and airplanes: the role of the ideas of Clausewitz in the development of doctrine at the Air Corps Tactical School (ACTS) and the importance of Clausewitz's concepts in modern air warfare.

Students of Clausewitz will find that ACTS instructors drew several key ideas from Clause-

witz. The relation of war to politics played an important theoretical role in establishing aviation as a wartime instrument of policy. Further, the concepts of the defeat of the "will" of the enemy and the "center of gravity" bridged the gap between existing Army doctrine and developing air power doctrine. Moreover, the ACTS experience suggests an enduring applicability of Clausewitz for today's planners. Clausewitz's concept of friction in war has particular relevance and value for a modern air force.

Clausewitz at the Air Corps Tactical School

A study of the ideas exchanged—and ultimately codified into doctrine—at the Air Corps Tactical School at Maxwell Field in the 1930s provides a basis for comparing the U.S. airman's view of war with that of Clausewitz. It was, after all, at this school that Air Force views of war were germinated.

The work of the Air Corps Tactical School was not entirely original: the basic idea behind strategic bombardment predated World War I. Nevertheless, the school was important because it was the intellectual center of the fledgling air arm and because its faculty systematically developed a specific theory of strategic bombardment and taught it to other air officers. Still, the work of the Air Corps Tactical School might well have received little attention had not some of the school's key faculty members (Harold George, Laurence Kuter, Kenneth Walker, and Haywood Hansell) later formed the nucleus of General Henry H. Arnold's staff in the development of AWPD-1, the basic document for the conduct of the strategic air offensive by U.S. forces against Germany. For the most part, the work of these men has been studied solely in terms of the unique contribution made by the Air Corps Tactical School to the teaching of the theory of strategic bombardment. But their work in establishing a coherent air doctrine for the United States suggests a remarkable understanding of the nature of war and its relationship to national policy.

Clausewitz's clearest contribution to American air power doctrine of the 1930s was his discussion of war as an instrument of policy. Clausewitz began his study with an attempt to answer two basic questions: What is the nature of war, and how does it relate to national policy? On the other hand, the ACTS instructors, convinced that they stood at the threshold of a true revolution in warfare, began by attempting to identify maxims applicable to that revolution. Their underlying grasp of the realities of military operations led them into the same avenues of analysis that Clausewitz had pursued. They started with the same questions.

With respect to the relationship of war to national policy, one can find specific references to Clausewitz in the works of ACTS leaders. Haywood S. "Possum" Hansell, for example, while a lieutenant and instructor at the school, quoted Clausewitz in the school's 1935-36 introductory course, defining war as "the furtherance of national policy by other means."[1] Hansell went on to explain the Clausewitzian viewpoint:

> Von Clausewitz realized that there are normal means for furthering national policy in time of peace. Von Clausewitz had in mind diplomatic, economic, and financial stratagems by which nations seek to further their own policies in time of peace. It is only when all other means have failed that the conflict is continued by violence.[2]

Like Clausewitz, then, Hansell attempted, in the beginning, to analyze the nature of war. Both men realized that countries can employ peaceful methods to achieve national goals while maintaining political stability between nations. When these peaceful methods fail, the countries may resort to war as an instrument to attain their respective national objectives.

The officers at the Air Corps Tactical School also echoed Clausewitz in analyzing the object of war. Hansell, again referring to Clausewitz, argued that the "real object of war is not a continuance of violence, but the establishment of a satisfactory peace."[3] He expanded on this

point in postulating that "war is unsuccessful unless it brings about a lasting peace, on terms that are favorable to national policy."[4]

The primary proponent of the Clausewitzian argument of war as an instrument of policy was Muir S. "Santy" Fairchild, who had studied the work of the nineteenth-century philosopher. The injection of Clausewitz's writing in the ACTS environment appears to have been his initiative.[5] Fairchild "explored the field of national policy and the role of air power as an instrument of national policy for the furtherance of national objectives . . . and to . . . distill the nature of military requirements from the muddied waters of national policy."[6]

Beyond this theoretical introduction to warfare, the direct connection between Clausewitz and the Air Corps Tactical School is less clear. Indeed, the origin of ACTS reasoning is, at best, vague. Douhet, Mitchell, and Clausewitz are all possibilities. Douhet is credited with first establishing a theory of strategic bombardment, but his actual influence on ACTS thought seems destined to remain a matter of conjecture.[7] Certainly, Douhet's theory of strategic bombing was radically different from that developed at Maxwell, so "it appears that whatever influence he had was inspirational rather than anything else."[8] Similarly obscure is the influence of Mitchell, despite the fact that his "aim was to stimulate the development of all aspects of the military air potential" and he is generally recognized as the rallying point for a separate service.[9] Mitchell's direct contribution to the air power doctrine developed at the Air Corps Tactical School is simply not defined well.

Clausewitz, on the other hand, is quoted directly in the ACTS lectures, indicating that members of the ACTS faculty had at least a basic familiarity with his work. The degree to which his writings influenced bombing doctrine is strictly speculative, however, since beyond a general discussion on the nature of war, direct reference to Clausewitz (or any other theorist) is not evident in the lectures. In fact, it appears that the aviators at the tactical school may have selectively applied whatever theories made the argument for a strategic bombardment theory more convincing and palatable to Army superiors. Nonetheless, distinct parallels exist between Clausewitz's writings and the school's theory of strategic bombardment.

In addition to influencing the ACTS aviators' basic views of war and of how air power related to war, the ideas of Clausewitz seem to have provided ACTS thinkers with a conceptual link to bridge the gap between existing Army doctrine and the air power doctrine being formulated at Maxwell. These aviation pioneers faced at least two concrete problems: internally, they had to come to grips with the capabilities and limitations of the airplane; externally, they faced the challenge of gaining recognition for the unique capabilities of the airplane. As Army officers, they must have addressed these two problems in terms they understood, based on a knowledge of existing Army doctrine. Moreover, in the face of impending interservice rivalry and economic austerity, they had to address these two problems in terms that could be understood by nonaviators.

Army doctrine of the day was set forth in the Field Service Regulations of 1923 and was written in Clausewitzian terms. For example, we read in one regulation: "The ultimate objective of all military operations is the destruction of the enemy forces by battle. Decisive defeat in battle breaks the enemy's will to war and forces him to sue for peace."[10] Similarly, the Air Corps Tactical School grasped the idea of defeating the will of the enemy as the foundation for air power doctrine. War as defined by Hansell in his lecture "The Aim in War" was:

> . . . essentially and fundamentally a conflict of the wills—the will to obtain is opposed to the will to retain. The will to progress is in conflict with the will to resist that progression. . . . Hence it is, in the viewpoint of the aggressor, an effort to overcome the will to resist.[11]

Further, Major Harold L. George, an instruc-

tor at the Maxwell school, contended that "the real object in war is to overcome the hostile will. . . . The basic purpose, the fundamental object in war is to force the will of one nation upon another nation, to overcome the hostile will."[12] Thus, Clausewitz's dictum that war is "an act of violence to compel our opponent to fulfill our will" seems to have been a vital link between existing Army doctrine and emerging air doctrine.[13]

The stumbling block for these aviation enthusiasts lay in the traditional belief, as suggested by Army doctrine, that defeat of the enemy ground forces in battle must precede (and will result in) overcoming the enemy government's will to resist. ACTS faculty members rejected the viewpoint then prevalent in the Army that only armies on the battlefield could bring about decisive victory. They argued that defeating the enemy's army was merely a means to an end, not an end in itself. According to Major George, "the destruction of the military forces of the enemy is not and never has been the objective of war; it has been merely a means to an end—merely the removal of an obstacle which lay in the path of overcoming the will to resist."[14] With the coming of aviation, air power enthusiasts saw a unique way of defeating the will of the enemy and all the while avoiding the expensive, bloody confrontation they remembered so vividly from World War I: "The object of war can be obtained with less destruction and lasting effects than has heretofore been the case. At present, the Air Force provides the only means for such an accomplishment."[15]

Rather than concentrating their focus solely on the enemy's army, air power theorists contended there might be other, more direct ways of defeating the enemy's will to resist. They couched this argument in Clausewitzian terms, adopting the idea of a nation's center of gravity for use in their doctrine. Clausewitz realized the importance of choosing a key element of the adversary's structure and concentrating military effort against that element. He wrote:

> All that theory can say here is as follows: That the great point is to keep the overruling relations of both parties in view. Out of them a certain centre of gravity, a centre of power and movement, will form itself, on which everything depends; and against this centre of gravity of the enemy, the concentrated blow of all the forces must be employed.[16]

The ACTS theorists agreed that, in an earlier time, the center of gravity had often been the enemy's army. Such had been the case not only in the wars of the Napoleonic era but also in those of Alexander, Gustavus Adolphus, Charles XII, and Frederick the Great. But the aviators also argued, as did Clausewitz, that the center of gravity could be other than the enemy's army. In states torn by civil strife, for example, the center of gravity might well be the seat of government, normally the capital city. In coalition warfare, the center might lie in the army of the strongest ally.[17] The general's unique task was to find the central point of the enemy's power and then to concentrate forces at that point.

Air power enthusiasts contended that with the coming of the industrial revolution, the center of gravity for a nation had become its industrial war-making capacity. Moreover, an air attack against an industrial nation would break the enemy's will to resist. Major George explained:

> Modern industrial nations are much more vulnerable, because of the existence of the economic structure which our present civilization has created, than were the nations of a century ago when the dependence of one section upon many others did not exist. It appears that nations are susceptible to defeat by the interruption of this economic web. It is possible that the moral collapse brought about by the break-up of this closely knit web would be sufficient; but connected therewith is the industrial fabric which is absolutely essential for modern war. To continue a war which is hopeless is worse than an undesirable peace, because the latter comes soon or late anyway; but to continue a modern war without machinery is impossible.[18]

Donald Wilson, another ACTS instructor,

argued similarly that "a modern industrial nation's most vulnerable spot is its industrial system" and that "a determined air attack against the industrial area can cause its collapse in a remarkably short period of time."[19] Destroying the enemy's industrial base would weaken the will of the enemy's people to support the war, causing the development of compelling and decisive pressure on the enemy's political leaders to end the war. At the same time, destroying the enemy's industrial base would leave the army without supplies or the means to fight.

By targeting the enemy's industry, the heart of the concept of strategic bombardment, American air power theorists homed in on a target entirely different from the enemy's army. At the same time, the aim was the same as that argued by Clausewitz, the defeat of the enemy's will and capacity to resist.

Understandably, the aviators' interpretation of Clausewitz marked a break with the Army's traditional view of Clausewitz. The Army's view, expounded as it was by writers whose experience was with ground armies, emphasized defeat of the enemy's army as a prelude to overcoming the will of the enemy to resist. However, the industrial revolution and the advent of the airplane opened possibilities for an entirely new view of war which was still based on the ideas of Clausewitz, and the Air Corps Tactical School seized these opportunities.

In adapting Clausewitz to their needs, Fairchild and his associates appear to have seen air power as a logical extension of Clausewitzian theory. Like Clausewitz, they addressed the nature of war before attempting to solve the problem of how to fight a battle. Clausewitz formed the basis of the airmen's discussion of the nature of war and the relationship of air power to national policy. Further, the Air Corps Tactical School, after defining the objectives in war, set about to establish the means to achieve these ends, based on the unique military capabilities of the airplane. In Clausewitz, the airmen found a link between existing Army doctrine and developing air power doctrine that could give credence to their arguments with ground oriented Army officers.

The irony of the airmen's use of Clausewit is that they were using old, pre-aviation idea to argue that theirs was a new dimension i war. In other words, the theorists at the Ai Corps Tactical School considered themselve revolutionaries. One might have expected tha they would discard theories that did not hav their foundation in aviation's past. Howeve such was not the case, for in Clausewitz the found much common sense and logic on whic to build their formula for air power doctrine In Hansell's words, "a great deal of von Clause witz's writing had to do with the fundamenta forces of human nature which are relativel constant and unchanging."[20] In this regard much of Clausewitz's writing still applies t warfare today.

Clausewitz and Today's Airman

The application of air power is headed fo revolutionary change in our lifetime; the fron tier of space and the development of electroni combat, pilotless drones, and other technica advances suggest a continuing reevaluation o air warfare. One can easily imagine that th cadre at the 1st Space Wing at Peterson AFB Colorado, will attempt to look to the futur and address the problems of war in a nev (fourth?) dimension in a manner akin to that o the faculty members at the Air Corps Tactica School who addressed the third dimension i the 1930s. It is appropriate, then, while con templating the future, to remember the chal lenge laid down by Major George in his lectur "An Inquiry into the Subject War":

> From today on, much that we shall study wil require us to start with nothing more than a acknowledged truth and then attempt, by th utilization of common sense and logic, to evolve formula which we believe will stand up under th crucial test of actual conditions. We shall attemp to develop logically the role of air power in th future, in the next war.[21]

Planners today are looking for new formulas, and, like the Air Corps Tactical School, they require common sense and logic to develop new concepts that will guide the use of new weapons. Clausewitz's ideas will be important in these efforts because Clausewitz understood the relationship of war to politics as well as the fundamental human dimensions of combat. The advent of innovative technology may affect radically the conduct of war but not the basic relationships of war and national policy objectives.

At the same time, through his concept of friction in war, Clausewitz also provides a key idea to guide the planning process. He introduced this most important concept to distinguish real war from war on paper. From this concept, Clausewitz derived the often-quoted aphorism that "everything is very simple in War, but the simplest thing is difficult."[22] War moves in an atmosphere of uncertainty, danger, and chance.

While much of Clausewitz's discussion of friction centers on actual combat operations, it applies to the planning stage also. The very existence of friction begs the planner to ask hundreds of questions—one example being: What if my basic assumptions are wrong? The concept also applies where the peacetime development of doctrine is concerned. Those who plan and develop doctrine in the vacuum of peace, when friction can be discounted by the stroke of a pen, must be especially aware of the concept of friction and its implications for their work. While extensive planning may prevent everything from going wrong, the inability to rule out friction in war ensures that everything most certainly will *not* go right.

A comparison of the ACTS aviators' peacetime planning with actual events in World War II provides abundant examples of the effects of friction. The American strategic bombardment theory, developed in peacetime, reflected many assumptions on which the bombing plan was based; some of these assumptions proved invalid.[23] Hansell addressed some of these assumptions in a lecture to the Air War College in 1951:

> The fanatical belief of the bombers in their own defensive fire power was not so much a choice and election to operate unescorted as it was a conclusion that fighters could not be built with sufficient range to accompany them. . . . We had a tendency to build our doctrine around the drawing-board designs and the expected performance of aircraft still in the design stage. On this basis we unquestionably magnified our expected capabilities and minimized our limitations. . . . Our doctrine held that bombers in proper formation could conduct a running fire fight and preserve themselves against fighter attacks. Unquestionably this was based on hope and not on existing fact. . . . In the period before the war, our lack of experience led us to be too optimistic in gauging the number of bombs and the number of trials it would take to destroy a target.[24]

These assumptions neglected the possibility that technology would eventually provide fighters with the necessary range to perform the escort role. More important, they overlooked the possibility that improvements in air defense, particularly radar, would provide enemy air defense fighter units with the means to locate and intercept bomber formations.

The single item that distinguished the theory evolved at the Air Corps Tactical School from other bombardment theories was the emphasis placed on target selection (and the nature of the targets themselves).[25] This planning, too, was plagued by friction. Reflecting the belief that the destruction of carefully chosen targets would cripple the enemy's war-making capacity, the tactical school went to great pains in analyzing the most appropriate targets during their map problems. The process continued during the war planning effort, where extensive evaluation and selection of priority targets took place at headquarters.[26]

In spite of this extensive planning effort, friction took its toll when the plans were implemented through the directives issued during wartime. These directives "were often little more than formal memoranda for the record. . . . Air Force commanders actually enjoyed great

latitude in waging the air war and sometimes paid scant attention to the official priority lists drafted with such care in higher echelons. And the weather was the final arbiter in any case."[27] Interestingly, Clausewitz's first example of friction was the weather: "Fog can prevent the enemy from being seen in time. . . . Rain can prevent a battalion from arriving."[28]

It would be presumptuous, of course, to suggest that a more detailed knowledge of Clausewitz would have changed bombardment doctrine or the work of the ACTS theorists. Nevertheless, the development of strategic bombing doctrine and its implementation in World War II reinforce Clausewitz's convincing argument that real war will not be as the planner envisions it. The recognition of friction is a necessity in developing flexible doctrine and strategy that can be adapted to changing requirements.

Clausewitz's concept of friction in war has direct application in a multitude of undertakings today: the AirLand Battle, C³I design, space doctrine, nuclear employment concept and joint doctrine. Planning in these areas re quires innovative minds that recognize the ex istence of friction in war. Because at least som friction is inevitable in war, the planner nc only must challenge what he thinks is right bu must seek out what is flawed in his basic as sumptions or missing from the factors that h has considered. Thus, planners must cultivat dissent rather than gather disciples. If we fail i this task, our service doctrines may become n more than individual sets of dogmas intende to vindicate unique service beliefs.

Clausewitz provides us with the tools to ur derstand the nature of war, to guide the appl cation of military force as an appropriate ir strument of power, and to examine our doc trine introspectively to ensure that we remai prepared for the future. While he does not pro vide a checklist of easy answers, he does en hance intellectual perspective.

Air Command and Staff Colleg
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Notes

1. Lieutenant Haywood S. Hansell, "The Aim in War," a lecture to the Air Corps Tactical School (available in Hansell Collection, USAF Academy Library, Colorado Springs, Colorado), p. 2. Cf. Carl von Clausewitz, *On War*, translated by Colonel J. J. Graham, with introduction and notes by Colonel F. N. Maude (London: Kegan Paul, French, Truber and Company, 1940), vol. I, p. 23. Also see Michael Howard and Peter Paret, *On War* (Princeton, New Jersey: Princeton University Press, 1966), p. 87. The Graham Maude translation was the only version of *On War* available for use by the Air Corps Tactical School. The 1976 edition of *On War* is the standard for today's student of Clausewitz. Recognizing the need to maintain historical perspective while simultaneously providing references for contemporary readers, all references to Clausewitz will be taken from the Graham Maude edition, followed parenthetically by the corresponding reference in the Howard Paret edition.

2. Hansell, p. 2.

3. Ibid.

4. Ibid.

5. Interview with Major General Hansell in Atlanta, Georgia, 27 March 1973. Lieutenant Hansell joined the Air Corps Tactical School faculty as an instructor in the Air Force section in 1935. Major Fairchild served in the section from 1937 to 1940.

6. Major General Haywood S. Hansell, *The Air Plan that Defeated Hitler* (Atlanta: Higgins-MacArthur Longino and Porter, 1972), p. 23.

7. Dr. David MacIsaac, *Strategic Bombing in World War II: The Story of the United States Strategic Bombing Survey* (New York: Garland, 1976), p. 8.

8. Ibid. Assertion taken from an interview between Dr. MacIsa and General Carl A. Spaatz, USAF (Ret).

9. Ibid.

10. *Field Service Regulations, United States Army* (Washingto Government Printing Office, 1923), p. 77. Also quoted, in part, Robert T. Finney, *History of the Air Corps Tactical School, 192 1940*, USAF Historical Series, No. 100 (Maxwell AFB, Alabama: A University), p. 30.

11. Hansell, "The Aim in War," p. 2.

12. Harold L. George, "Inquiry into the Subject War," lecture Air Corps Tactical School (in Hansell Collection, USAF Academ Library), pp. 3-4. Major George served as an instructor durir 1932-34 and as Director of Air Tactics and Strategy until that po was taken over by Donald Wilson in 1936.

13. Clausewitz, vol. I, p. 2 (Howard Paret edition, p. 75).

14. Major Harold L. George, "An Inquiry into the Subject War lecture at the Air Corps Tactical School, *Aerospace Historia* December 1978, p. 208.

15. Ibid. Quotation cited from 1st indorsement, Office Chief Air Corps, to Commandant, ACTS, 1 September 1928; letter Lieutenant Colonel C. C. Culver, Commandant ACTS, to C. AC., April 1928.

16. Clausewitz, vol. III, p. 106 (Howard Paret edition, p. 94).

17. Major Muir S. Fairchild, "The Aim in War," lecture at the A Corps Tactical School (available in Simpson Historical Researc Center, Maxwell AFB, Alabama, file 248.201 A-3), pp. 9-10. C Clausewitz, vol. III, p. 106 (Howard Paret edition, p. 596).

18. George, "An Inquiry into the Subject War," *Aerospace Hist*

nan, p. 209.

19. Donald Wilson, "The Origin of a Theory for Air Strategy," *Aerospace Historian*, March 1971, p. 21. As a captain, Wilson served as an instructor from 1929 to 1930 and later as a student in the 1930-31 session. Major Wilson remained as an instructor during 1931-34 and, after promotion to lieutenant colonel, returned to the Air Corps Tactical School in 1936 to serve as Director of Air Tactics and Strategy until January 1940.

20. Major General Haywood S. Hansell, *American Airpower in World War II*, unpublished manuscript (available in Simpson Historical Research Center, file K112.3-2), pp. 17-18.

21. George, "Inquiry into the Subject War," p. 3.

22. Clausewitz, vol. I, p. 77 (Howard Paret edition, p. 119).

23. Maclsaac, p. 9.

24. Major General Haywood S. Hansell, "The Development of the United States Concept of Bombardment Operations," a lecture presented at the Air War College, 19 September 1951 (available in Simpson Historical Research Center, file K239.766251-76), p. 13.

25. Maclsaac, p. 8.

26. Elmer Bendiner, *The Fall of Fortresses* (New York: Putnam, 1980). The author details the level of effort in deciding on Schweinfurt-Regensburg as the ultimate target for the now-fabled August 1943 raid.

27. Wesley Frank Craven and James Lea Cate, editors, *The Army Air Forces in World War II, Vol. 3, Europe: Argument to V-E Day, January 1944 to May 1945* (Chicago: University of Chicago Press, 1951), p. 721.

28. Clausewitz (Howard Paret edition), p. 120.

1986 MILITARY HISTORY SYMPOSIUM

The Department of History at the United States Air Force Academy will host its Twelfth Military History Symposium on 1-3 October 1986. The theme is "Transformation in Russian and Soviet Military History," focusing on the military heritage of imperial Russia, Soviet military doctrine, the Great Patriotic War, and the postwar emergence of the Soviet Union as a military superpower. The symposium will begin with the Twenty-ninth Harmon Memorial Lecture, a keynote address on soldiering in the tsarist army.

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AN ARMY AND AIR FORCE ISSUE: PRINCIPLES AND PROCEDURES FOR AIRLAND WARFARE

LIEUTENANT COLONEL STEPHEN T. RIPPE, USA

IN a 1984 article titled "Targeting Soviet Forces," Lieutenant Colonel Donald L. Mercer stated in simple terms the problem facing our joint doctrinal thinkers: "The success of the AirLand Battle hinges on attacking the critical elements of enemy formations with the maximum means available in the minimum amount of time."[1] To achieve this synchronization of AirLand forces, the U.S. Army and U.S. Air Force must practice a joint doctrine that enables them to concentrate the maximum amount of combat power based on an operational concept at the decisive point in time and space against enemy forces. To what extent do current U.S. Army and U.S. Air Force principle and procedures provide for the effective con duct of AirLand warfare at the operationa level of war under modern conditions?

Two definitions are integral to a clear under standing of this topic.

Operational level of war—The operational leve of war encompasses the movement, support, an sequential employment of (large) military forma tions (usually corps and above) in the conduct c military campaigns to accomplish goals directe by theater strategy or other higher military au thority. It is the connecting link between strateg and tactics.

Synchronization—To synchronize is commonl

> defined as "to occur at the same time." Synchronized joint military operations result from an all-pervading unity of effort by air and ground forces. They are characterized by a concentration of combined arms combat power that complement and reinforce each element at a decisive point in time and space based on an operational concept.

By tracing the evolution of joint doctrine in World War II and surveying contemporary joint U.S. air/ground doctrine, Soviet air/ground operations, and U.S. Army corps operations, several contemporary issues that affect operational effectiveness become apparent. Adoption of several fundamental joint warfighting principles may help to ensure optional synchronization of Army and Air Force efforts in AirLand warfare.

World War II

The AirLand warfare principle of coequal and interdependent air and ground forces developed in World War II. The principles and procedures learned in North Africa through experience and solidified with the publication of Field Manual 100-20, *Command and Employment of Air Power*, proved to be operationally sound.

The misapplication of air power at the beginning of the North African campaign caused a reexamination of AirLand warfare doctrine by the British. The fundamental air power problem that had to be solved before air forces could support AirLand warfare effectively was how to gain and maintain air superiority. Interservice rivalries, personalities, and coalition warfare politics aside, the air superiority issue caused the British to structure their AirLand forces to take the maximum advantage of the inherent flexibility of air power, which allowed air power to concentrate rapidly on the battlefield. With the reorganization of forces in the North African theater and the publication of Field Marshal Bernard L. Montgomery's *Notes on High Command*, which led to the publication of FM 100-20, the Americans had established an AirLand warfare doctrine for what they determined to be the most effective control and use of air power.

On 21 July 1943, when Field Manual 100-20 was published, it superseded Field Manual 1-5, *Employment of Aviation in the Army*, and was regarded as rendering Field Manual 31-35, *Aviation in Support of Ground Forces*, obsolete.[2] FM 100-20 stated that land power and air power are coequal and interdependent forces. This idea was a radical departure from previously accepted American ideas concerning air and ground relationships. FM 100-20 established the principle that

> the command of air and ground forces in a theater of operations will be rested in the superior commander charged with the actual conduct of operations in the theater, who will exercise command of air forces through the air force commander and command of ground forces through the ground forces commander.[3]

Finally, this manual institutionalized the prioritization of air power effort in a theater of operations:

> First priority—To gain air superiority [currently referred to as counterair].
>
> Second priority—To prevent movement of troops and supplies into and within theater [currently referred to as air interdiction and battlefield air interdiction].
>
> Third priority—To participate in a combined effort of air and ground forces [currently referred to as close air support].

With the publication of FM 100-20, an army commander had an established, battle-proven doctrine that allowed concentration of combat power in time and space to support an operational concept. Subsequently, the forces in the European theater of operations were structured in support of that doctrine. This structure allowed for the continued development of more effective procedures, such as those for visual markings, a thorough air/ground liaison system, joint planning, and an air-ground tactical fighter control/communications system. According to *Army Ground Forces Study No. 35*, the primary reason for operational success was the close tie-in between armies and tactical air

commands through the employment of a thorough liaison system and adjacent air and ground headquarters. The study goes on to state that the majority of air missions performed "continued to be those planned jointly in the combined operations centers at army-tactical air command level."[4] Therefore, the centralization of air power at the operational level allowed the army and air component commanders to concentrate their combat power most effectively in consonance with the goals established by higher authority. Practical men had developed a workable solution to the problem of operational joint doctrine for air and ground forces. They designed a system that would gain air superiority as a first priority and then attack targets in consonance with a campaign plan.

In my opinion, the most significant criteria that caused the World War II AirLand campaigns to succeed were:

- Air and ground organizations were structured to support the fundamental concept of air superiority while maximizing air force capabilities to concentrate combat power rapidly.
- Headquarters were collocated at the operational level (army/tactical air command).
- The interface of air and ground component commanders was at the field army/tactical air command level because *the system was organizationally designed to support AirLand warfare at the operational level.*

The air/ground interdependent and coequal system, as originally designed by Field Marshal Montgomery and reflected in FM100-20, was *intended to function* at the operational level of war. Montgomery summarized in a few words how he solved the air/ground coordination and cooperation problem:

> All that is required is that the two staffs should work together at the same HQ in complete harmony, and with complete mutual understanding and confidence.[5]

Additionally, the personalities of the Allied leaders were a dynamic force, albeit difficult to capture, that certainly had a significant impac on the doctrine, organizational structure, an very effectiveness of the AirLand forces them selves. The impact of practical experience an innovation can be measured only through con jecture. Yet, as is characteristic of the America people, the "system" took advantage of practi cal experience and encouraged innovation Simply put, it worked.

Contemporary Joint Doctrine

In November 1984, the Joint Attack of th Second Echelon (J-SAK) Joint Service Agree ment was signed by the Air Force and Arm Chiefs of Staff, and in December 1984, the J-SAI Procedures Manual was published. These sig nificant documents are among our first state ments concerning how air and ground force will jointly conduct modern warfare. They ar significant because since the end of World Wa II, the Army and Air Force have become sepa rate services, have had separate interests, an have followed separate paths.

Air Force Manual 1-1, *Basic Aerospace Doc trine of the United States Air Force*, states tha as a crucial element in interdependent air an ground forces, air power can be the decisiv element in warfare and thus commanders mus design their organizations and plans to max imize the effects of this relationship.[6] The J-SAI is a joint attempt to strengthen this interde pendent Army-Air Force relationship. In scope the J-SAK applies to the employment of Arm and Air Force interdiction assets that disrupt delay, or destroy enemy second-echelon forces. The stated objective of joint attack of second echelon targets is to divert, disrupt, delay, an destroy the enemy's capability to wage war b altering the momentum of his effort. This join attack will give commanders at the forwar line of own troops (FLOT) the time and spac necessary to fight the FLOT battle while senio headquarters plan for follow-on operations. Most significantly, the J-SAK establishes:

- The land component commander and ai

component commander consult and coordinate with each other. They command coequal and interdependent forces.

- The air component provides close combat support (close air support). He provides general support (counterair and air interdiction) by the maintenance of air superiority and interdiction.
- Battlefield air interdiction (BAI) is a subapportionment of air interdiction (AI) and *not* a separate effort.
- The tactical air control center and battlefield control element conduct consultation and coordination. Joint planning by the staffs of the air and ground component commanders does not occur. (Therefore, there is no joint planning or execution at the operational level.)
- Tactical air support requests may be submitted in the form of mission-oriented requests. (For example: "Delay the 2d Motorized Rifle Division north of the Yellow River for five hours.")
- The land component commander prioritizes BAI targets. The air component commander prioritizes AI targets and makes final interdiction target selection.

In short, while historical antecedents suggest that consultation and coordination are not adequate to execute joint operations, the J-SAK procedures are built around these fundamental principles.

However, NATO—based on the principle of air superiority first, with limited resources for simultaneous tactical air missions—has established fundamentally different principles and procedures for modern AirLand warfare:

- The army group/tactical air force headquarters are collocated and jointly plan operations.
- BAI is not part of AI. It is apportioned as part of offensive air support and is a direct support asset.
- The air component commander does not manage the entire theater interdiction campaign; rather, he is responsible for the interdiction planning for those targets/missions beyond the corps/army group reconnaissance and interdiction planning line (RIPL).

Furthermore, the stated purposes of NATO's operational doctrine described in ATP-27(B), *Offensive Air Support*, reflect those of one of its historical antecedents, FM 100-20: gain and maintain air superiority, first, to prevent the movement of enemy forces into and within the theater and to destroy these forces once in theater, and second, to assist in ground force objectives through joint operations.[9]

It is the fundamental principle of air superiority first, with limited resources for simultaneous tactical air missions, that has driven the conceptual thinking concerning how best to employ air power. ATP-27(B) describes the unclassified, generic principles and procedures that NATO employs to solve this dilemma. Although the end result may be the same, the command, control, and liaison agencies existing in Central Europe and the functions performed at each level are somewhat different from those defined in the J-SAK. The Central European battlefield is characterized by a highly complex, coalition warfare environment where the efforts of several nations must be combined into a single theater campaign plan. As such, different principles and procedures have been developed to solve the problems associated with air and ground relationships in maneuver warfare.

Soviet Air/Ground Operations: An Overview

The Soviets are organized to exploit their numerical superiority and their overall offensive strategy that takes advantage of their capability to concentrate large numbers of troops and equipment.[10] In order to breach defenses rapidly and maintain offensive momentum, Warsaw Pact doctrine advocates the use of massed, high-speed, heavily armored forces at a time and place of their choosing.[11] During offensive operations, the advanced penetration

element and the first echelon would maintain pressure on the defense in an attempt to find its weakness. Then second-echelon forces and operational maneuver groups (OMGs) would be used for exploitation. The Soviet offensive would probably be conducted in three major phases: "the air operation, the anti-air operation and rapid, deep OMG-led penetrations on the ground."[12] The purpose of the air operation would be to neutralize the bulk of NATO's air nuclear capability.[13] Shortly following the start of the air operation, ground forces would attack with large-scale OMG-led raids in conjunction with air assault and airborne landings into the depths of NATO's defenses.[14] Simultaneously, the antiair operation would seek to protect the air and ground forces throughout the entire depth of the battlefield.[15] Follow-on forces would then conduct exploitations in an attempt to conclude the war rapidly.[16] The Soviets are convinced that they can win conventionally. Their entire structure is designed for fast-tempo operations that can be executed to defeat NATO forces, presenting them with a fait accompli, before NATO can execute a nuclear option.[17]

The Soviet Air Force consists of three components: Frontal Aviation, Long-Range Aviation, and Military Transport Aviation. Soviet Frontal Aviation is comparable to the United States Air Force Tactical Air Command.[18] It has approximately 6000 combat aircraft that are assigned to military districts within the Soviet Union and to the Western theater of military operations (TVDs).[19]

A typical Soviet *front* has an assigned "aviation of the *front*." This organization has also been referred to as a "tactical air army." The organizational structure for this aviation of the *front* is not fixed. However it would routinely include fighter, fighter-bomber, bomber, reconnaissance, and helicopter transport regiments.[20] Furthermore, evidence currently exists that the *front* commander may subordinate his Su-25 Frogfoot attack aircraft, which performs the equivalent role of NATO's A-10, to the army level for operations.[21] The planning and preparation of air support before an offensive begins is driven by the *front* commander's orders to his army commanders. The *front* commander's concept of operation, as approved by higher authority, is the focus of the entire combined arms effort. According to FM 100-20-1, *The Soviet Army, Operations and Tactics* the *front* commander's order specifies "the air units to be committed, the ground armies to be supported, and the time of attack."[22]

The Soviet approach to military organizations is highly functional. It emphasizes unity of purpose and unity of command. An important point to remember is that the Soviet *front* commander (approximately equivalent to a U.S./NATO army group commander) has at the operational level all of the combat power under his command to accomplish goals as directed by theater strategy or other higher military authority. This difference between the U.S. and Soviet approach is fundamental; the Soviet operational level commander does not have a coequal air commander with whom coordination must be made. Air and ground forces are not, in the Soviet view, coequal and interdependent. Rather, they are both subordinate to the operational dictates of the *front* commander. The significance of this fact is that because of the Soviet functional approach the necessity for U.S. joint doctrinal thinking to integrate air and ground operations effectively is increased exponentially.

Corps Operations: An Overview

In the U.S. Army's AirLand Battle concept, is the army commander's campaign plan that "provides the concept of operations and objectives which will allow the corps commander to put his own plans in perspective vis-à-vis the overall army objective and the operations of adjacent corps."[23] Corps operations will require the synchronization of air and ground combat power.[24] That is why the corps com-

mander must understand the overall air campaign plan, the overall theater interdiction campaign plan, and the resultant, expected apportionment of air resources. The allocation and use of air combat power by the army commander must fit within both the objectives of the various corps campaign plans and the objectives of the joint force commander's theater campaign plan. The army commander's intent must be communicated clearly to the corps commanders. The corps commander must understand how his corps fits into the army's mission in support of theater goals and how the army commander visualizes mission accomplishment.

Corps operations, therefore, are conducted in consonance with the army commander's campaign plan.[25] Current doctrinal thinking and objective realities posit that corps campaigns, such as would be conducted in Central Europe, generally consist of sequential phases which can be described as defensive, offensive, and exploitation.[26] National strategy, such as our forward defense in Europe, dictates that the initial phase of a campaign would be *operationally* defensive. The objective of this phase is to reduce the tempo of the attacking force, to create an opportunity for offensive actions, and to force the enemy to change his plan.[27] Once the attacker's tempo is disrupted and he is forced to alter plans, the corps has an opportunity to regain the initiative and to force further enemy reaction.[28] The objective of the offensive phase is to sustain the initiative by rendering the enemy's *first operational echelon* ineffective.[29] During the exploitation phase, operational maneuver is conducted to accomplish army objectives in consonance with the army commander's campaign plan. Therefore, each phase of the campaign plan must be designed to accomplish sequential objectives that build on one another to accomplish the corps mission as assigned by the army commander. Additionally, each separate phase of the campaign plan is conducted with the understanding that the rear, close, and deep battles are "inextricably linked."[30] To fight and win, the corps commander must be able to synchronize his combat power in time and space as dictated by the flow of the battle. This synchronization of combat power is the corps commander's primary task; he must isolate and focus his efforts on the deep threat.[31]

Another important point to remember is that the army and corps campaign plans must counter the two Soviet characteristics of aggressive offensive orientation and numerical superiority.[32] These campaign plans must be proactive. *Actions* must alter the Soviet troop control and decision process, which essentially means disrupting follow-on forces, to cause the enemy to react to our actions. The object is to *counter* the enemy's ability to interfere with each proposed friendly course of action.

The corps is the level of command where information from national systems and tactical systems is combined to form an accurate intelligence picture of the threat in depth.[33] The corps uses this information both to plan future operations and to disrupt follow-on forces while the battle at the FLOT is under way. According to FM 32-20, *Military Intelligence Group*, in the corps area of influence the corps commander must have the location of "enemy division and army command posts, NBC [nuclear, biological, and chemical] delivery systems, radioelectronic combat units, logistic installations, communications, and *frontal* aviation operations center" in order to plan and conduct a proactive campaign.[34] Although specific capabilities are classified, the corps obtains this information from a variety of sources: subordinate divisions, armored cavalry regiments, corps military intelligence units, adjacent corps, tactical air reconnaisance, echelons above corps, and national systems.[35] The corps must integrate information from all sources to conduct a successful proactive campaign. Generally, because of current capabilities, information that the corps receives beyond its area of influence will be provided by higher headquarters or national systems.

The result of the intelligence effort must be to determine where, when, and in what strength the main attack will occur. The corps campaign plan must shape the battle at the FLOT so that the campaign can become proactive and proceed logically to its offensive and exploitation phases. The significant point in synchronizing air and ground combat based on intelligence information is target value analysis.[36] The value of a given set of targets or enemy capabilities is a function of their ability to influence the corps campaign at a given point in time and space. For this reason, AirLand warfare must be jointly conducted in consonance with the overall operational goals in the context of the theater campaign plan. Without the joint employment of forces in accordance with a single operational concept, we greatly reduce our ability to synchronize our combat power against high-value target sets. However, there are many contemporary issues that directly affect our ability to employ joint forces in accordance with a single operational concept.

Contemporary Issues Affecting Operational Effectiveness

Conceptually, the U.S. Army and the U.S. Air Force view the term *doctrine* differently. *Doctrine*, in Army terms, conceptually translates into "how the Army fights." *Doctrine*, in Air Force terms, conceptually translates into "a statement of officially sanctioned beliefs and warfighting principles." Simply put, the Army will fight wars based on its doctrine, while the Air Force may fight its wars based on "theater-specific doctrines" that will be more specific than that which is "officially sanctioned."

General Lew Allen, Jr., a former U.S. Air Force Chief of Staff, summed up the importance of focusing the majority of our joint doctrinal efforts on our most dangerous threat when he stated in 1982: "We are thus faced with a confrontation which we must fully address. As far as the United States is concerned, Europe is the central focus of that confrontation."[37] This conclusion seems to create a paradox for the Air Force. While Europe provides the most dangerous high-intensity battlefield threat and indeed the resultant justification for many of the U.S. Air Force's procurement efforts, there still exist fundamental differences between "officially sanctioned" joint doctrines and those established for Central European AirLand warfare.

As previously stated, the development of the J-SAK Joint Service Agreement and the subsequent J-SAK Procedures Manual is a significant step forward in U.S. Army and U.S. Air Force "jointness." These documents are among our first joint statements concerning how air and ground forces will conduct modern warfare. Not intended to be theater-specific, the J-SAK package provides a generic joint doctrine that allows a theater the flexibility to modify this doctrine in accordance with its specific requirements and peculiarities. The single greatest flaw with J-SAK is that it attempts to establish procedures without establishing fundamental principles for AirLand warfare.

According to J-SAK, it is the corps that orients primarily on the operational level of war. Although true as a generalization, corps operations can range from purely tactical, to tactical and operational, to purely operational. Nevertheless, the J-SAK states that this orientation on the operational level of war involves "conducting campaigns and battles . . . and seizing and exploiting the initiative when planned windows of opportunity open for friendly offensive action."[38] Therefore, it is at this level that joint planning by "two staffs . . . at the same headquarters in complete harmony" should occur. J-SAK, however, advocates coordination and consultation at the air and land component level and makes no provisions for joint planning at the corps/operational level. Central Europe (CENTAG) recognizes the necessity for joint planning and has therefore collocated the Army Group and Tactical Air Force staffs. However, even in Central European NATO, there is no institutionalized meth-

ed for joint planning at the corps level when and if a corps would conduct operational-level warfare. In short, the principle should be joint planning and collocation of headquarters at the *operational level* regardless of the organizational level at which operational warfare occurs. Our current joint doctrine is inadequate because it establishes only *coordination* and *consultation* at the operational level.

The J-SAK formally recognizes the concept of both an air and a land component commander in a theater of operations. This principle may be effective in a theater with one or two corps or possibly a single army group. However, if Central Europe is the focus of our readiness efforts, it seems dysfunctional to advocate doctrine that is unworkable in that theater. There was no land component commander in Central Europe during World War II and, by definition, there is no land component commander in Central Europe today. Furthermore, although there is an air component commander in Central Europe (Commander of Allied Air Forces Central Europe), the *procedures* outlined in the J-SAK further complicate the component's role in theater-level warfare. Since the Allied Air Forces Central Europe (AAFCE) commander has no land component headquarters with which to plan, it is critical that the AAFCE commander have the same understanding of the theater commander's intent as the army group commanders. Otherwise, the air effort may be out of synchronization with army group campaign plans. Our current joint doctrine is inadequate because it establishes the specific *principle* of a land component commander in a theater of operations and procedurally builds on this principle. Therefore, our joint doctrinal principle can be neither universally applied nor applied to the theater in which we face our most dangerous threat, Central Europe.

Air superiority is fundamental. Once again, the system was originally designed at the *operational* level of war to gain air superiority first and to attack targets in consonance with the operational campaign plan. When this line of thought is implemented, separation of BAI from AI makes good sense, giving the operational commander the opportunity to focus his planning efforts and designate targets/missions that synchronize combat power. BAI should be commanded and controlled by the Air Force. BAI should be allocated to a corps only in consonance with an army campaign plan agreed on through joint planning with the corresponding air commander's staff. BAI is nothing more or less than another combat power resource used to accomplish an operational objective. The NATO principle of air apportionment recognizes and reflects the historical framework on which AirLand warfare was built. Therefore, our current joint doctrine, as established by J-SAK, is inadequate concerning the synchronization of combat power at the operational level of war. Simply stated, the J-SAK principle that the air component commander is responsible for the entire interdiction campaign and, therefore, designates BAI targets *prioritized* by the operational commander degrades the operational commander's ability to focus planning efforts and synchronize combat power in consonance with an air/ground campaign plan.

To conduct modern AirLand operations effectively, we must get out of the "target list mentality." Patton illustrated the validity of mission-oriented air requests in fast-moving, fluid situations when the XIX Tactical Air Command protected the Third Army's right flank as it moved across France. The J-SAK recognizes the necessity for mission-oriented air requests. This recognition represents a milestone in our joint ability to conduct modern operational warfare. The institutionalization of this principle will have tremendous implications for the Air Force. Mission-oriented air requests will undoubtedly change the Air Force's approach to training (in a shift from mission to target orientation) and will more *functionally* integrate the Air Force into campaign planning and execution.

TO what extent do current U.S. Army and U.S. Air Force principles and procedures provide for the effective conduct of AirLand warfare at the operational level of war under modern conditions?

The answer is that although the J-SAK has enhanced interservice dialogue significantly and is an important step forward in "jointness," the joint doctrinal principles and procedures as practiced in Central European NATO most closely approximate historical antecedents and provide for the most effective conduct of AirLand warfare at the *operational* level of war under modern conditions. This argument is not based on a Central European doctrine that is theater-specific; rather, it is based on fundamental principles and procedures for AirLand warfare that are reflected in historical *fact* and should be roughly applicable to all theaters at the operational level of war.

The "ultimate" solution to our joint, generic AirLand warfare doctrine should recognize fundamental criteria for warfighting based on historical fact and procedurally adapted to modern circumstances. The essence of these joint doctrinal principles at the operational level of war are reflected in the following five criteria that are necessary (though not sufficient) conditions for operational success:

- The campaign plan *drives* all air and ground activities.
- Air superiority is fundamental and must be obtained in consonance with the goals of the campaign plan.
- Air and ground staffs should be collocated and should plan jointly at the operational level.
- Air Force acceptance of missions as *part of the overall campaign plan* (versus target-by-target requests) is key to our joint ability to execute AirLand warfare doctrine.
- Operational commanders must have the ability to synchronize air and ground combat power effectively, in consonance with an operational campaign plan.

Our joint AirLand warfare doctrine as established in the J-SAK must provide a framework of principles for targeting and attacking Soviet forces. Currently, fundamental principles have not been established. The J-SAK should be descriptive versus prescriptive, establishing doctrinal principles applicable to all theaters, with a focus on our most dangerous threat, that of the Soviets in Central Europe. The five criteria recommended here provide a fundamental framework of principles that can be procedurally adapted to specific theaters. Furthermore, these criteria reflect historical precedent and closely approximate those principles *already* established for AirLand warfare in Central Europe.

In developing our joint doctrine, we must never forget that the difference between the U.S. approach to AirLand warfare and the Soviet approach is fundamental: the Soviet air and ground forces are both subordinate to the operational dictates of the *frontal* commander. Therefore, to overcome this difference, our coequal and interdependent air and ground forces must be employed with doctrinal principles that effectively synchronize our forces based on a single operational concept at a decisive point in time and space. Both the U.S. Army and the U.S. Air Force have common interests. Both services, when they fight, want to win. Both services want a highly functional joint doctrine that maximizes the flexibility of air power to concentrate on the battlefield. We have made significant steps forward with Army and Air Force joint initiatives, agreements, and manuals. Now is the time to capitalize on our progress thus far and to develop fundamental joint principles.

U.S. Army School of Advanced Military Studies
Command and General Staff College

Notes

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3. Field Manual 100-20, *Command and Employment of Air Power* (War Department, 1943), p. 1-11.
4. Greenfield, p. 91.
5. Field Marshal Sir Bernard Montgomery, *Notes on High Command in War* (Tripoli: Headquarters Eighth British Army, 1943), p. 29.
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7. U.S. Army and U.S. Air Force, *Joint Service Agreement for the Joint Attack of the Second Echelon* (Washington: Departments of the Army and Air Force, November 1984), p. 2.
8. Ibid., p. 4.
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12. Phillip A. Peterson and John G. Hines, "Military Power in Soviet Strategy against NATO," *Journal of the Royal United Services Institute for Defence Studies* (RUSI), December 1983, p. 53.
13. Ibid.
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15. Ibid.
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17. *Corps Deep Battle*, p. 18.
18. "Organization of the Soviet Armed Forces," *Air Force*, March 1984, p. 104.
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20. Ibid., p. 32.
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22. Field Manual (FM) 100-2-1, *The Soviet Army* (Washington: Department of the Army, July 1984), p. 1-1.
23. *Corps Deep Battle*, p. 15.
24. Ibid.
25. Ibid., p. 16.
26. Ibid.
27. Ibid., p. 17.
28. Ibid.
29. Ibid., p. 16.
30. Ibid., p. 30.
31. Ibid.
32. Ibid.
33. FM 34-20, *Military Intelligence Group* (Combat Electronic Warfare and Intelligence) (Corps) (Washington: Department of the Army, May 1983), p. 1-10.
34. Ibid.
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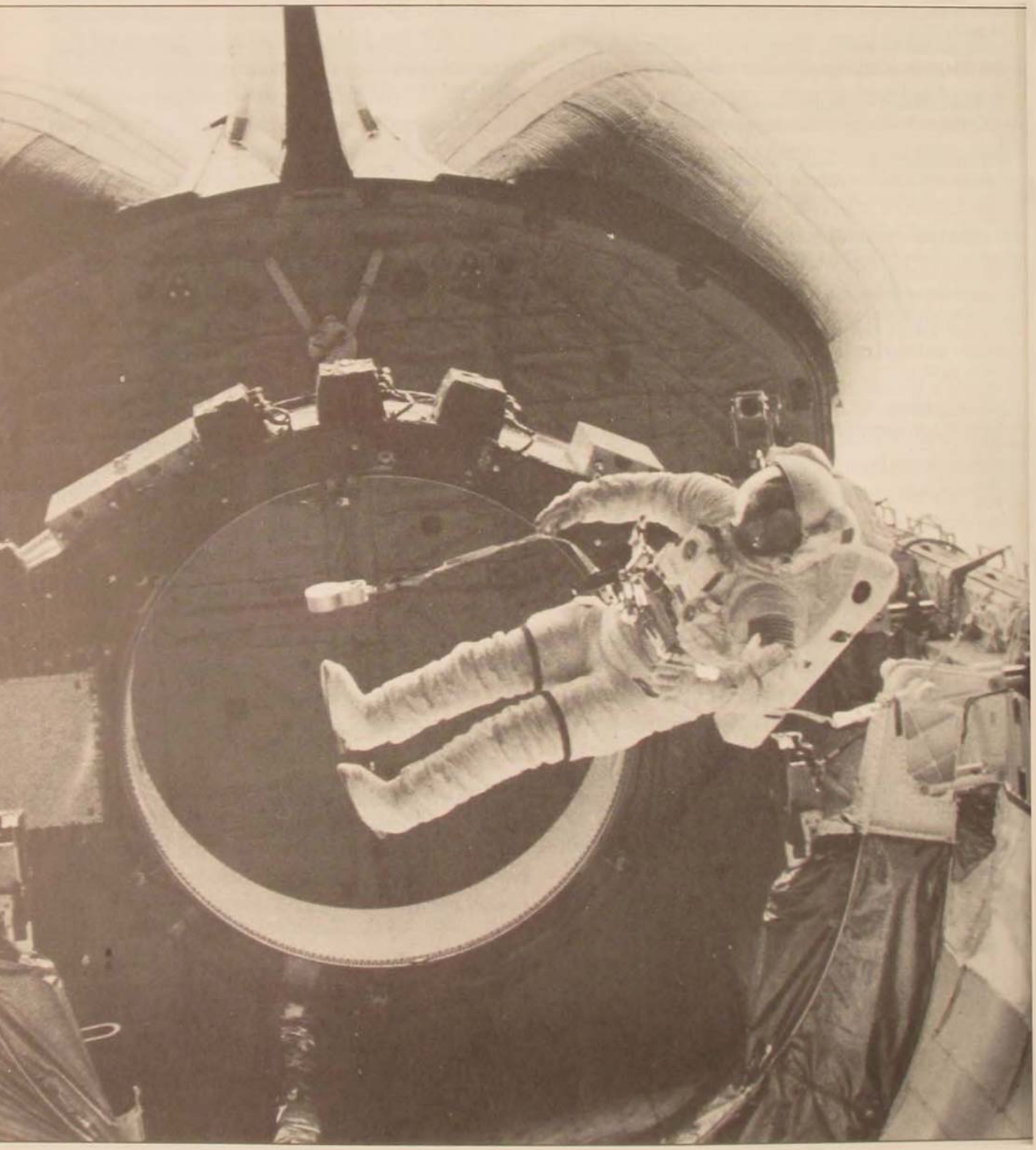
36. *Corps Deep Battle*, p. 38.
37. General Lew Allen, Jr., "U.S. Air Power," *U.S. Military Power in the 1980's* (London: Macmillan, 1983), p. 115.
38. TAC-TRADOC-REDCOM (Hq USAF Tactical Air Command, U.S. Army Training and Doctrine Command, and U.S. Army Readiness Command), *General Operating Procedures for Joint Attack of the Second Echelon* (J-SAK), 31 December 1984, p. 4-1.

Troops should not be encouraged to foster a spirit of jealousy and unjust detraction towards other arms of the service, where all are mutually dependent and mutually interested, with functions differing in character but not in importance.

J. E. B. Stuart
After Second Bull Run (1862)

WALKING ON WINGS: CAUTION AND COURAGE FOR MANNED SPACE FLIGHT

COLONEL TIMOTHY E. KLINE



R in my opinion

"Safety second is my motto."

Ormer Locklear

DAREDEVILTRY may be one man's recklessness or another man's scientific pioneering. Points of view make all the difference. In 1919 and 1920, a daring former lieutenant galvanized the Hollywood film industry with amazing aerial feats. While the cameras whirred, Lieutenant Ormer Locklear became the first individual to transfer from one aircraft to another in midair.[1] He was feted at parties with a celebrity introduction as having more "nerve than anyone who ever lived," and this description continued even after he was killed in a 1920 air crash near the locus of his legendary accomplishment.[2] Locklear ignited a barnstorming fever that would electrify a tight fraternity of flyers for a decade.[3]

How did Locklear sustain such a gust of publicity, sweeping along an enraptured national audience? Why was his timing so perfect? Probably because, seventeen years and a major war after the Wright brothers, the American people had finally digested the idea of manned flight. Having accepted the routinization of a scientific process, Americans were yearning for adventure but with considerably less risk. Locklear's demonstrations both thrilled movie buffs and encouraged professionals who were then putting future airliners on the drawing board. Locklear said that he performed "to do things that people feel can't be done."[4] Charles A. Lindbergh probably couched that salient idea best:

> Why does one want to walk wings? Why force one's body from a plane just to make a parachute

> jump? Why should man want to fly at all? People often ask these questions. But what civilization was not founded on adventure, and how long could one exist without it? But what justifies the risk of life? Some answer the attainment of knowledge. Some say wealth, or power, is sufficient cause. I believe the risks I take are justified by the sheer love of the life I lead.[5]

Locklears and Lindberghs are the lineal antecedents of astronauts who launched our space age. That still-budding space age teeters precariously today on the pros and cons of continuing the pace of manned space flights. Arguments against are impressive; the arguments for are compelling. Regardless, nothing should obstruct this civilization's greatest scientific adventure—extraorbital space flight by modern-day "wing-walkers."

The fascination that greeted early suborbital and multiorbital manned space missions suffered a dramatic decline following the final Apollo sortie. Only recently, with the renewed drama of the space shuttle series, has a tide of enthusiasm among the general public burgeoned sufficiently to support the most tentative proposals for future flights of exploration. Why the lull of keenness in the hiatus between Apollo and Columbia? Clearly, a space program without high human drama is lackluster and flat despite the vast potentialities of machines and the Voyager-demonstrated powers of computer assistance. The larger, tax-paying public cannot quite focus on arrays of silicon chips or banks of batteries. For the average man on the street, reality wears a human face.

Space itself is too barren, cold, and sterile. Like any other vast stretch of sameness, including the Sahara, the Gobi, Antarctica, and even oceans, outer space is not comprehensible without a yardstick. For this age, the yardstick remains the only valid and truly knowable measure—a mature human body. Since nothing can be fully perceived beyond the two-meter corporeal presence we know best, we humans consistently dwell on dimensions inhabitable by and delineable by living persons. In this regard, enthusiasms will always follow footsteps. The moonwalk of Neil Armstrong suggests far more than his words superficially confess. Steps are what our lives are about; progressive human steps must mark our journeys into space. Anything less will produce only the kind of gloomy, cost-cutting despair that settled in after the first race to the moon had been won. Hopefully NASA has absorbed at least that overriding lesson—people like to watch adventurers daring to brave hostile environments. Any machine's triumph is likely to be viewed with suspicion and distrust. Who really ever cared how many and how marvelous were Ma Bell's manifold circuitries? Machines are designed to be slaves; men are destined for mastery.

In this sense, the space environment promises profound boons for man's travels and poses severe challenges to his forays as well. Certainly the clarity of the medium and even the relatively sanitary nature of a near-vacuum make it an attractive ocean on which scan frictions, few obstacles, and rather appreciable accelerations can be savored. On the other hand, the vacuous reaches hold no solace, offer no safe harbors, and contribute no materia resources that might benefit a broken vessel o sustain a life form totally dependent on liquids, solids, and gases wholly missing from the medium of transmission. For men to venture out on such a sea is the major adventure of our time. It would not be wrong to label such explorers as reckless except that the crew selection process, scientific preparation, and sheer expenses mitigate any hasty judgment. What really, do these high-cost risk-takers hope to achieve? Is their goal so different from that of the daredevils of our century's second and third decades? Perhaps not.

Octave Chanute credited F. H. Wenham's observations of birds, in the context of demonstrating known laws of flight, with the real beginning of a search for manned flight. In 1866, Wenham presented a paper to the Aeronautic Society of Great Britain that "breathed into it a spirit which has continued to this day."[6]

Attractive thought processes merging the flight characteristics of birds with a burst of good, solid reason produced manned flight. One medium—air—led to another—space—as more recent scientific communities wrestled with known limitations and reached for emerging technologies to overarch perplexing barriers. No previous civilization has ever moved so quickly. Professor Eugene M. Emme celebrated this achievement in the first sentences of his impressive survey *The Impact of Air Power:*

> From the biplane of the Wright brothers to the baby moon called "Sputnik" has been but a few swift decades. Rarely in the story of mankind has a technical innovation altered human affairs with greater rapidity or with wider significance than has the science of flight.[7]

Professor Emme continued his preface with a well-reasoned elaboration, claiming that "air power" and "space power" form a kind of continuum of phenomena: "Air space and outer space will always remain a single, indivisible medium."[8] Thus, the surge of interest in recent shuttle missions underlines now what he boldly proclaimed more than two decades ago—that the air age would lead directly to the space age with hardly a pause. A craft that can depart earth's surface by rocket and return on its own wings strikes the imagination exactly where it has always been happily vulnerable—where a reality has long been conceivable yet is only just now achievable.

What is man to do in space? In a word: *discovery*. There is an old proverb that puts it this way: "It is God's business to hide a matter; it is the king's business to find it out."[9] The same kind of observations that in 1866 led Wenham from birds in flight to the conceptualization of manned flight are being fashioned today. That electrical power is the "lifeblood of a space vehicle"[10] may seem a superficially trite fact yet is far deeper in promise than a hurried observer might note. The absolute dependence of space travelers on vehicular electric power is elementary. Nonetheless, electricity itself involves some form of travel through a less than benign medium at speeds approachable to (if just short of) that which is thought to be a primary barrier to stellar exploration.

But are there any permanent barriers? Before we admit that any exist, we had better look again. The record of man's recent achievements speaks rather clearly to an opposite conclusion. Means are now being presented to our hands by emergent technologies that boggle the mind. Alas, if only the mind could travel like electricity while the body rested. Without getting metaphysical, a curious kind of explosive fury of knowledge seems about to break in upon us. Yet if we are to travel in tubes and wings, two constants still plague us—time and our bodies.

If time could be folded like a fan, we could bridge the vast distances of space with the technology on hand and, more important, with the bodies that hold us to such brief spans of experience, in relative terms. On the other hand, if our bodies could be superseded or at least the dying process delayed, we could deal better with the inability to compress time. The answer to neither of these challenges seems close. How then to proceed? As always, by expecting the unexpected, probing the dark corners of our understanding, and pressing toward the objects of our activity, the stellar arrays themselves.

Perhaps the computer will help us in the search for answers of genius. The U.S. Air Force forecast for the year 2003 proclaims: "The present technological surge is led by the computer."[11]

Secretary of the Air Force Verne Orr and Air Force Chief of Staff General Charles A. Gabriel asserted in the *Posture of the Air Force and Budget Estimates for Fiscal Year 1984* that just as in the 1920s, "when we were just learning about the possible uses of air power, we are today on the threshold of exploring uses of space."[12] The "rapid growth of space technology" has been remarkable.[13] Air Force leaders are quick to point out a primary requirement to maintain "an environment that will permit exploitation of new technologies" but are not

sure whether they want men or robots aloft.[14]

For most military applications, which are designed to assist surface warfare, a good case can be made for robotics. Harry I. Davis outlined the traditional arguments in the *Report of the USAF Scientific Advisory Board Ad Hoc Committee on the Potential Utility of a Manned Space Station* (June 1983): more precision, more endurance, and, most important, no life support system needed.[15]

Unfortunately, the case for man in deeper space is still mired in debate. The NASA programs Gemini, Apollo, and Skylab all have demonstrated in highly publicized ways how men were able to "save" space missions. But in an era of severe budgetary constraints, it is too easy to line human crews out of follow-on/further-on missions. Should the various bureaucracies succumb to the barrage of cost-cutting rationale, they will do so at the risk of the only sure way to generate and sustain the massive fundings necessary to complete the larger adventure—the matchless spectacle of living beings at work in space.

There is simply no substitute for a planned sequence of manned space missions. The solar system is the latest schoolyard. For the interim, while evolving technology is busily unwrapping universal secrets, this star's planets are sufficient platforms for training and travel. But the mastery of the planetary realm cannot continue apace, devoid of mankind, without gradually becoming sorely repetitious. Floating cameras and robotic devices will not for long arrest the interest of earthlings craving high thrills among the orbits, nor will they move congressional committees far in loosening budget restraints. Let no one be deceived. Sacrificial giving can be motivated only by strong enthusiasms springing from the deep wellspring of shared human hopes and joys. The daredevils of the twenties tapped that source of kindred expectation and secured the safest, most responsive mass transit system the world has known.

When the air age translated into the space age, there was no public complaint or congressional carping. Clearly derived benefits of aviation had been transferred rapidly to the public airways, and that process was well remembered. Transportation for the masses had gotten so noticeably better by the early sixties that rocketry and space seemed to offer equally hopeful promise for the future. When Commander Alan B. Shepard lifted off Launch Pad 5 on 5 May 1961, becoming America's first man in space, millions of humble Americans positively identified with the daring and swiftness involved. They followed that particular mission with envy and hope. Subsequent flights aimed at the moon, and public excitement permitted the carrying on of a much wider and more sober series of unmanned space exploration flights. Recently, Air Force officers from the Eastern Space and Missile Center's 6555th Aerospace Test Group reenacted that special "Freedom 7" Flight on 5 May 1984 by launching a miniature Mercury-Redstone 3 to commemorate Shepard's flight.[16] It was a nice gesture. But it was a memorial of sorts. The future of manned space exploration today continues in doubt.

No appeal on the merits of scientific investigation will sustain the kind of enthusiasm wanted for funding space research. Too many pressing, yet mundane afflictions warrant general expenditures that compete for increasingly scarce fiscal resources. Only a human in space can capture the imagination. The requirement is clear. Without wing-walkers, the call of space will go unanswered, and the high vaulted halls of space will remain great mysterious voids, untracked, uncharted, and unknown.

Hq USAF

Notes

1. Art Ronnie, *Locklear: The Man Who Walked on Wings* (South Brunswick and New York: A. S. Barnes and Company, 1973), p. 13.
2. Ibid., p. 11.
3. Ibid., p. 8. Lieutenant General Jimmie Doolittle wrote: "In those days, the flying fraternity was small; and all of the old gang knew or knew of Lock and respected him as a craftsman."
4. Ibid., p. 8.
5. Charles A. Lindbergh, *The Spirit of St. Louis* (New York: Charles Scribner's Sons, 1953), p. 269.
6. W. J. Jackman, Thomas H. Russell, Octave Chanute, *Flying Machines* (Chicago: Charles C. Thompson Company, 1910), pp. 7-8.
7. Eugene M. Emme, *The Impact of Air Power* (Princeton, New Jersey: D. Van Nostrand Company, 1959), p. v.
8. Ibid., p. vi.
9. Proverbs 25:2.
10. U.S. Air Force, *Space Handbook* (Maxwell AFB, Alabama: Air University, August 1977), p. 4-1.
11. U.S. Air Force, *Destination 2003, A Global Assessment* (Wright-Patterson AFB, Ohio: Air Force Logistics Command, 1983), p. xv.
12. *Space: The Fourth Military Arena* (Maxwell AFB, Alabama: Air Command and Staff College, May 1984), p. 6.
13. Ibid.
14. Ibid., p. 9.
15. Ibid., p. 88.
16. Feature story in *Newsreview*, 15 June 1984.

He who would greatly achieve must greatly dare, for brilliant victory is only achieved at the risk of disastrous defeat.

Washington Irving (1783-1859)

The strongest, most generous, and proudest of all virtues is true courage.

Michel de Montaigne
Essays (1580)

The Joint Chiefs of Staff in early 1986

HOW INTERSERVICE ISSUES ARISE

COLONEL THOMAS A. CARDWELL III

It is true that there are deep-rooted interservice differences that break out occasionally in seemingly bitter exchange. But they are the product of honest convictions by honorable men of deeply justifiable pride in all that their respective Services have contributed to the growth and security of our country.[1]

General Matthew B. Ridgway

EACH of the military departments and services are assigned, by law, certain tasks—called functions—to perform. These functions are described for the most part in Department of Defense (DOD) Directive 5100.1, *Functions of the Department of Defense and Its Major Components* (sometimes called the "Functions Paper"), and in Joint Chiefs of Staff Publication 2 (JCS Pub 2), *Unified Action Armed Forces.*

In these documents, three kinds of functions are described: common, unique, and collateral.[2]

- *Common* functions of all the military de-

partments (and their services) are to "organize, train, and equip forces for assignment to unified commands."

- *Unique* functions are those that an individual service claims as a primary function, for which it is mainly responsible.
- *Collateral* functions are those actions where one service performs a primary function of another—such as aerial mine laying by the Air Force.

The Unique and Collateral Functions of the Services

Since the unique (primary) and collateral functions are the foundation from which each of the services establishes its positions, a summary of each of the military departments' functions is in order.

The Department of the Army's primary function is to organize, train, and equip Army forces for the conduct of prompt and sustained combat operations on land—specifically, forces to defeat enemy land forces and to seize, occupy, and defend land areas. Additionally, the Army organizes, trains, and equips air defense units for the defense of the United States against air attack; formulates doctrine for land deployment; and performs other activities such as civil works, beach erosion control, and Army intelligence. The Army's collateral functions are to train forces to interdict enemy sea power, air power, and communications through its operations from or on land.

The primary function of the Department of the Navy (including both the U.S. Navy and the U.S. Marine Corps) is to organize, train, and equip Navy and Marine Corps forces for the conduct of prompt and sustained-combat operations at sea (including sea-based and land-based naval air components)—specifically, forces to seek out and destroy enemy naval forces and to suppress enemy sea commerce, as well as to gain and maintain general naval supremacy; maintain the Marine Corps; formulate doctrine for naval forces employment; and provide intelligence for the Navy and the Marine Corps. The Navy's collateral functions are to train forces to interdict enemy land and air power through its operations at sea, conduct close air support and naval support for land operations, and be prepared to participate in the overall air effort.

The Department of the Air Force's primary function is to organize, train, and equip air forces for the conduct of prompt and sustained combat operations in the air—specifically, forces to defend the United States against air attack, to gain and maintain general air supremacy, to defeat enemy air forces, to control vital air areas, to establish local air superiority, and to conduct strategic air warfare. Additionally, the Air Force is tasked to furnish close air support, airlift, tactical reconnaissance, interdiction, and logistics air support for the Army; provide air transport for the armed forces; formulate doctrine for air forces employment; and provide aerial cartographic photography and Air Force intelligence. The collateral functions of the Air Force are to train forces to interdict enemy sea power through air operations, conduct aerial mine laying, conduct antisubmarine warfare, and protect shipping.

One notes that the Army functions are oriented to the terrain (land); the Navy and the Marine Corps functions, to the sea; and the Air Force functions, to the air. And in DOD Directive 5100.1, there is guidance that primary functions are to be the basis for force building (force levels, budgets, and hardware), while collateral functions cannot be used as the sole basis to justify force requirements. Understanding these facts, one can easily see why the services guard their functions carefully and why roles and missions that derive from these functions are so central to the issues that arise between the services.

Service Orientations Stimulate Issues

When issues arise in the joint arena, the four services tend to "take sides" according to the

team—integrating the best features of each aircraft into the concept. This example further illustrates how technology and doctrine can compound issues of service priority, creating issues with many facets for the services to consider.

Compromise Is the Usual Outcome

There are three possible outcomes to the resolution of any joint issue: take no action (don't resolve it), resolve the issue in favor of one position, or reach a compromise. Historically, the Joint Chiefs usually have chosen compromise. For example, the services addressed issues relating to tactical operations during sustained operations ashore, concluding these with a compromise (called the Omnibus Agreement), which contained the Air Force position in one paragraph and the Marine Corps position in another. But the wording in the collective position accounted for the unique air power requirements of the Marine Corps on the one hand, while accommodating the Air Force concepts requiring a single manager responsible for overall employment of air resources. Another example from the past was the 1967 compromise agreed to by the Joint Chiefs, in which all air assets operating in South Vietnam—except Army aviation assets and bombers belonging to Strategic Air Command—were placed under the operational control of the air component commander of the Vietnam subunified combined command—Military Assistance Command, Vietnam.

The Value of Working Joint Issues

Even for those involved on a daily basis with joint issues, it is difficult to try to make sense out of what causes disagreement between the services. It does help, though, to try to go back to the basics so that the issue can be more clearly understood. One must recognize that in areas of mission similarity, where service functions overlap, issues will arise. It is important to remember, too, that the functions established in the Functions Paper and JCS Pub 2 do serve, overall, as a reasonable basis for describing how the services organize, train, and equip their forces to fight in joint operations. In this regard, service rivalry can be healthy because it serves to illuminate difficult issues, providing a forum for airing of different views, yet operating within a structure that leads to their resolution. This process gets people involved so that the solution can be based on the collective wisdom and expertise of all the services, not just one. It particularly strengthens the U.S. unified structure, where each of the services brings its particular expertise (exercising its primary functions) to the unified commands, together providing a collective warfighting capability that is certainly greater than the sum of its component parts.

HISTORY has shown that joint issues will arise. How they are handled will help determine the direction that the U.S. military establishment will take in the future. We need to understand the functions of each of the services, becoming familiar with their views of how their forces should be trained, equipped, and employed. The message to officers assigned to joint headquarters or involved in working joint issues should be clear: You must understand JCS Pub 2!

601st Tactical Control Wing
Sembach AB, Germany

Notes

1. As quoted in Gordon W. Deiser, *The US Marine Corps and Defense Unification 1944-47* (Washington: National Defense University Press, 1982), p. 115.

2. JCS Pub 2, *Unified Action Armed Forces (UNAAF)*, (Washington: Office of the Joint Chiefs of Staff, October 1974), p. 16, Section

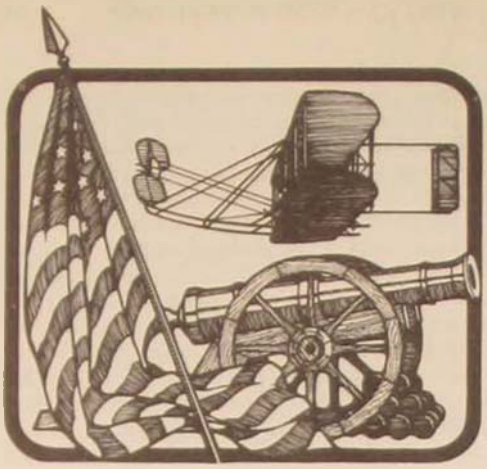
1 through 4 in this publication outline the common and specific functions of the services.

3. See Lieutenant Colonel Thomas A. Cardwell, USAF, "Service Issues—How They Arise," Doctrine Information Publication (DIP) Number 4 (Washington: Hq USAF XOXID, 1979). A very perceptive Marine officer developed this concept on how issues arise. The concept was further refined by Lieutenant Colonel Willard E. "Bill" Naslund, USAF, now retired, during 1975-77. Colonel Naslund was kind enough to teach me "how issues arise" and how to "work them." He was also kind enough to review this article and provide much-needed editorial comments.

4. This is not to say that they will not be discussed. When one views the new initiatives of the U.S. Army (and those of NATO) regarding new doctrines for deep attack and attack of the enemy's second echelon, it becomes clear that the Air Force may have to stand on such functional ground to maintain its primacy in control of operations deep in enemy territory; otherwise, such missions as interdiction may become missions for Army commanders to control, and weapon systems for deep strikes may be developed, procured, and employed by the Army. These emerging issues are focused particularly in the new concepts for AirLand Battle and Follow-on Forces Attack (U.S. Army and SACEUR concepts, respectively). Both of these concepts not only require deep attack but also tie such attacks to geographic bands located at distances relative to the line of ground contact. Further, within these bands, there are functional requirements to destroy enemy forces, disrupt them, or delay them as the distance increases from the line of contact. The issues here are centered on how this discrete range of weapons effect is to be achieved, by what service or control agency, and under the auspices of what primary (or collateral) function it is to be funded.

Profession is the correct word for the calling of the career officer today, in much the same sense that the word is applied to older professions like medicine or the law. The officer corps is a self-regulating body of men and women with expert knowledge of a complex intellectual discipline. It has a monopoly of the exercise of its function, and the exclusive right to select and train those new members who will be admitted to the discipline. Its client is society as a whole (through the mediation of the government, its sole employer), and it enjoys special privileges in compensation for its grave responsibilities. And, like any other profession, it also has a wide range of corporate interests and views to defend and advance.

Gwynne Dyer
War, p. 147



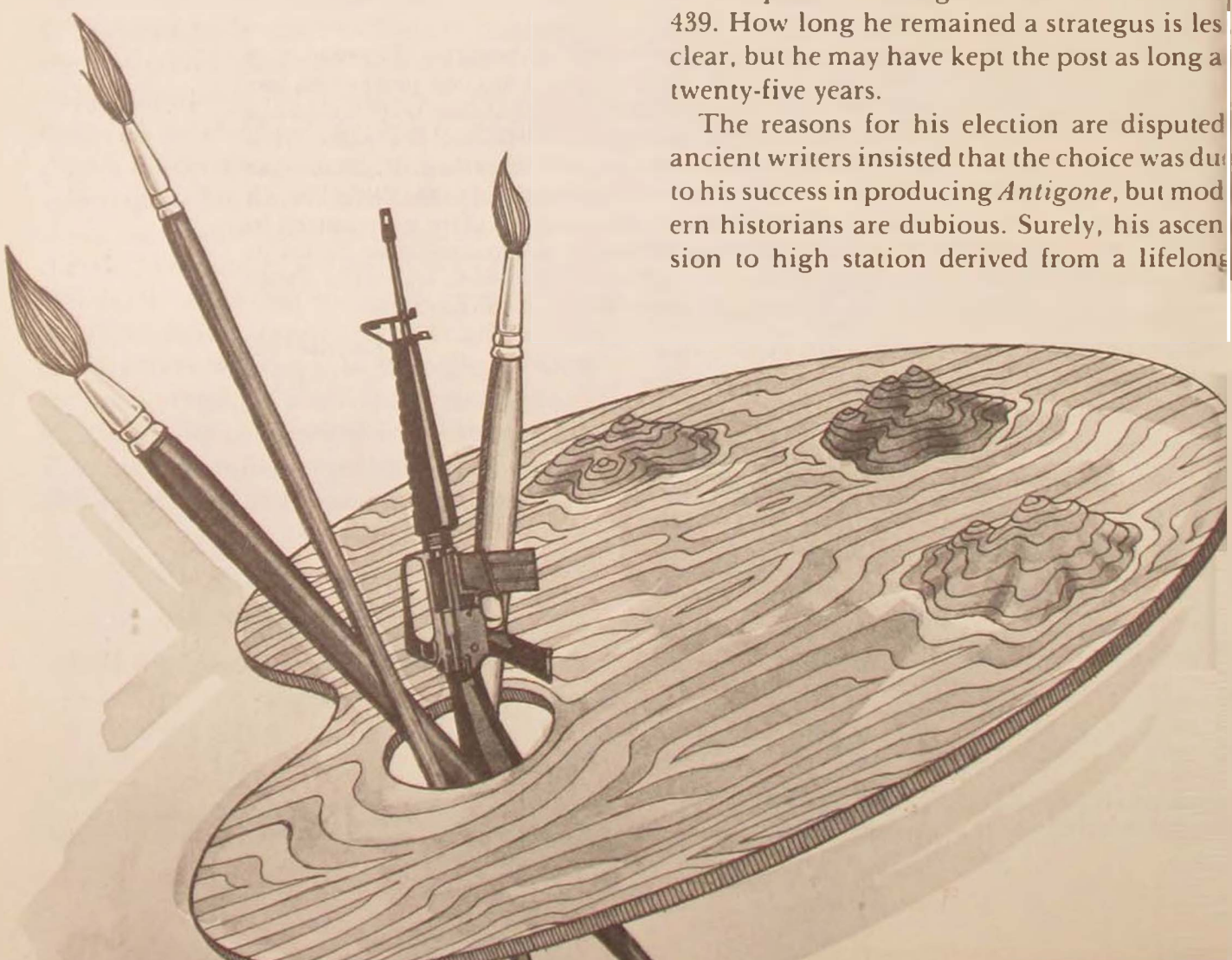
the classic approach

ARTS AND THE MAN

MAJOR RAYMOND C. HARLAN

IN 441-440 B.C., the playwright Sophocle was elected to the supreme military council o Athens. As one of ten strategi, or generals, wh planned and led all military activities for th Athenian Empire, he apparently commanded naval squadron during the Samian War of 440 439. How long he remained a strategus is les clear, but he may have kept the post as long a twenty-five years.

The reasons for his election are disputed ancient writers insisted that the choice was du to his success in producing *Antigone*, but mod ern historians are dubious. Surely, his ascen sion to high station derived from a lifelon



participation in civic affairs, good family connections, or some combination of fortuitous events—all plausible, but undocumented possibilities. To the contemporary mind, the historical accounts appear ludicrous. The Athenian military dominated the region with a fleet exceeding 300 ships and an army of 30,000 disciplined troops, which they employed in vast coordinated land and sea operations. The strategi plotted and led these campaigns, literally holding the power of life and death over troops in the field. How could a poet and play producer, even the best of the breed, exist in such a circle? How could he plan bloody campaigns and lead armed men in battle? It is as if Neil Simon were appointed to the Joint Chiefs of Staff on the strength of his success with the *The Odd Couple* and then stayed to help plan operations and lead troops in the Vietnam War.

But isn't our problem in understanding a military Sophocles partly our own perceptions? We shy from the notion that Sophocles's life as strategus might be linked to his success as *poētēs*. We imagine the chasm we have carved between the artist and the strategist to be a natural feature in every cultural landscape.

It was not always so. When Leonardo da Vinci applied to join the court of the Duke of Milan, he submitted a letter with ten sections. The first nine sections detailed his accomplishments as a military engineer; the tenth summarized his accomplishments as a civil engineer and an architect; and in one paragraph, he mentioned that he also had a certain skill with painting and sculpture. It seemed natural to Leonardo, the artist, that his art should be engaged in constructing fortifications.

Even the language with which we talk of war has always been intertwined with artistic devices. The earliest extant work on strategy appeared in China during the century after Sophocles's term as general. Sun Tzu's masterpiece, which heavily influenced Mao Zedong and B. H. Liddell Hart, among others, is aptly named *The Art of War;* and in it, both his strategy and his style are framed on metaphor:

> A victorious general is able to make his people fight with the effect of pent-up waters which, suddenly released, plunge into a bottomless abyss. (IV, 20)
>
> At first be shy as a maiden. When the enemy gives you an opening be swift as a hare. (XI, 61)

Informal twentieth-century English betrays the same link; we consciously push strategy and art to the opposite fringes of our culture but mingle them in our language. Because soldiers assume costumed roles in their various uniforms and build sets for theatrical illusions (camouflage), the *art* of theater supplies common metaphors. Thus, in journalistic clichés, soldiers in a given *theater* of war withdraw to a *staging* area before *opening* an attack. At the appointed hour, the *curtain rises* on a *scene* of *action*, as commanders *direct* their troops to their assigned *positions*. The attack commences, and individual soldiers *act* heroically while medics *perform dramatic* rescues against a *backdrop* of human misery. Aircraft, in a *supporting role*, hit key targets. Incidents of *heroic performance* continue as the war moves one day closer to *dénouement*.

Although no scribbler would stuff quite so much drama into just a few sentences, only the rarest of journalists can avoid an occasional reference to "the final curtain" or "setting the stage." So what? Is the connection just a trick of the language, the vocabulary of war being so impoverished that we must dive into theatrical jargon to describe the experience? Or is there something in Sophocles's experience as a poet that made him a more capable general?

When Admiral James Bond Stockdale returned after eight years in Hanoi's Hoa Lo prison, he began to speak and write in several different forums. The dominant theme in most of his pieces on prison life is the critical value of personal integrity, but a minor theme is the value of dramatic art. Drawing on the skills he learned from his drama-teacher mother, he would create a role to use during interrogation/torture sessions. Stockdale, the cautious, rational philosopher, played Stockdale the fa-

natic, whose intermittent fits of uncontrollable rage made him too unreliable to put before visiting journalists.

But there is an advantage more fundamental than this individual accomplishment—a universal element at the core of all the varieties of artistic endeavor. It is a different way of thinking that is fundamental to great art and the winning of wars.

With a moment's reflection, all of us can recognize that our human minds have two basic modes of attack when facing a problem. We can approach the problem rationally, analyzing it one step at a time, linear-fashion; or we can grasp the entire situation intuitively. Some problems yield more readily to the first, more logical approach; others are more accessible by the second, more creative route. That is, some tasks are better solved by science; others, by art. All this has been known for centuries, but in our day the two modes of thinking have been given an objective correlative in the right-brain/left-brain theory of Roger Sperry. Sperry, a neurosurgeon, devised a series of experiments which demonstrated conclusively that each side of the brain is the locus for different mental activities—spatial orientation occurs largely on the right, for instance, and algebraic reasoning on the left. Particular individuals tend to favor one side and exhibit the traits appropriate to that side.

As Sperry realized, real-world problems are likely to be solved by a mixture of tactics, drawing on both sides of the brain. The extraordinary advances in physics during the last two decades largely follow the pattern of great intuitive leaps later verified by painstaking analysis and exhaustive experimental data. So it is in war. The purely rational man would be an acceptable bureaucrat but a miserable strategist, too plodding to keep up with rapid developments. The purely creative man would be too flaky to execute his plans. The strategists who stand out in history are those with both faculties in abundance. The creative genius of General Douglas MacArthur enabled him to conceive the brilliant counterstroke at Inchon; the analytical part of his mind let him carry it out.

Contrast the Inchon maneuver with our abortive attempt to rescue the hostages in the Tehran embassy. The fundamental problem with the scheme was its patchwork nature. It was not holistic, being put together by a committee which ensured that every service had part of the action. The principal commandos were to have made no less than five changes in transportation. The operation was a concrete example of mixing metaphors, an artless collection of dramatic elements rather than a coherent plot. Sophocles would never have bought such a plan. Neither would Leonardo: one look at *The Last Supper* should convince anyone that it was cut from whole cloth—one grand design, not some pastiche pieced together bit by bit in committee deliberations. The second conspicuous fault with the Tehran operation was a shortage of rehearsals. The different actors in the desert refueling scenario had not practiced it together; the chopper pilots had no experience flying in sandstorms, etc. Sophocles, the practical director, the repeated winner in national play competitions, would never have opened such a sloppy show.

Unfortunately, most people who believed that war is an art also believed that artistic talent cannot be acquired: some generals, like some dancers, are just more talented than others. Fortunately, the truth is otherwise. A person's intuition can be improved just as readily as his skill at cause-and-effect reasoning. Improvement appers difficult only because most people approach it backwards. Those who believe that strategy is an art, when asked how to acquire skill in it, usually recommend the study of earlier wars. Study is a rational activity: one takes a campaign apart, one piece at a time, to isolate the critical events and determine their effects. But art does not proceed bit by bit; it seizes things whole. Studying may sharpen one's eye for the painstaking detail needed to work out an operations plan. It does not teach how to conceive the strategy underlying the plan. A

person improves his logical faculties by practicing logical thinking; he improves his artistic creativity by creating art!

As a former academy drama teacher and part-time play director, I have occasionally seen people suddenly uncover immense reservoirs of intuitive skill. I remember in particular a retired Air Force major with no previous experience who tried out for a little-theater production of *Twelfth Night* because his children thought that his participation would relieve his boredom. Our auditions failed to turn up sufficient male actors; beating the bushes helped, but we still had to cast every available man, so I gave the role of Antonio to the major. Rehearsals were a strain; not only did he have difficulty with Shakespeare's language, he could not translate the text into action. Even when he understood a sentence, he could not visualize it or imagine a group of real people with real emotions speaking the lines. But he was a trooper! Night after night, he battled with his part until finally in dress rehearsals he suddenly discovered the skill he had lacked. Before, we had seen a dispirited retiree reading lines woodenly; now we had a real sea-captain raging at his oppressors and risking death to rescue a friend. It was as if a whole region had been annexed to his personality. The last I saw of the major, he was headed to California, having been accepted into a graduate-level acting program. I have seen similar significant improvements in sequential reasoning skills while teaching missile launch officers how to calculate a launch time or analyze a security situation, but with a difference: gains in logic tend to come incrementally rather than in surges of holistic enlightenment.

While few artists achieve the military power bestowed on Sophocles, many leaders have indulged in art. Five centuries before Sophocles, the Old Testament warrior king, David, was equally adept in writing a psalm or leading men in desperate battle. The novel *Ben Hur* came from the pen of a Civil War general, Lew Wallace. George Patton wrote poetry. Winston Churchill painted, as did Hitler (though not very well). Jimmy Stewart held star rank in the Air Force Reserve as well as the movies.

On the other hand, some prominent military professionals have participated very little in any of the established arts (unless we were to count the writing of their memoirs)! History has shown us some remarkably unimaginative generals who might have benefited from a good poetry workshop, but history has also shown us a few superb strategists with no record of artistic endeavor (Robert E. Lee, for instance). This apparent disparity is not, by itself, surprising. A few people are born with a great aptitude for logic or creativity. Those endowed with logical genius may use it all their lives and acquire great mental agility without ever being introduced formally to a syllogism. Likewise with creativity: without ever setting a pen to a musical score or a brush to canvas or a chisel to stone, one can still live life as art and acquire great insight and intuitive powers. Lee, for example, molded his life as an artist. The hold he has on the public mind is not due to any critical appraisal of his campaigns. Rather, it comes from the tragic role he modeled. We see in our mind's eye the tall, dignified figure on horseback amid the smoke and rubble of a ravaged land. The whole Confederacy was the stage for the role he spent his life creating. Lincoln did likewise. Someone has remarked that the greatest actor ever to play Lincoln was Lincoln himself.

Simply living, however, is no guarantee of gain in either artistic or logical faculties. One can live his life haphazardly with scarcely any improvement in his abilities. The ordinary mortal with less mind power than a Sophocles or a MacArthur would be well advised to undertake a systematic plan of development. The running program required of cadets at the Air Force Academy will not make every cadet a world-class miler, but it should increase the speed and endurance of virtually every participant. Similarly, the practice of art will not make every military professional a Sophocles

or even a Lew Wallace, but it can enhance those inborn talents required of a strategist.

Pursuing an art could even help develop the moral courage needed in war. The purely rational mind, seizing on the immediate concern or on tangible obstacles, may compromise ideals by failing to see broad implications. The artistic mind, in contrast, might well focus on the forest instead of the trees. If we truly want a "whole person" for command positions, we might be wise in asking whether that person has ever written a poem or improvised on a trumpet or created a role on stage or demonstrated creative artistry in some other form. If so, he may have caught a glimpse of those ideals that give heroes their unflinching integrity, the same ideals guarded by artists through the centuries. Sophocles caught that spirit in Antigone's defiance of an immoral king: "I shall suffer nothing so dreadful as an ignoble death." The words of the ancient strategus paint a vision that today's Air Force needs:

> . . . like a shrill-screaming eagle,
> He flew over into our land in snow-white pinion sheathed,
> With an armed throng and with plumage of helms.
>
> *Antigone*, 1st Chorus

Old man Sophocles knew a warrior when he saw one.

Wright-Patterson AFB, Ohio

> An Athenian citizen in his time played many parts. . . . There was no artist class in Greece, withdrawn from active life, no literary class, no learned class. Their soldiers and their sailors and their politicians and their men of affairs wrote their poetry and carved their statues and thought out their philosophy.
>
> Edith Hamilton
> *The Greek Way*, p. 82

You've got the stick

CAMOUFLAGE AND CONSCIOUSNESS: WHERE DO THE TREES END AND WHERE DOES THE FOREST BEGIN?

LIEUTENANT COLONEL JOHN L. CONWAY III

I AM uncomfortable with the camouflage around me. Standing in line at the supermarket with my "ten items or less," I am surrounded by counterfeit Green Berets and pseudo-SEALS. The civilian populace, it would seem, has embraced the military once again by literally wearing it on their backs. Why, then, the discomfort? Wasn't it only half a career ago that wearing the uniform outside the gate brought forth the self-righteous wrath of America? Doesn't it feel good to be smiled at rather than scorned when you wear your class A uniform in the Atlanta Airport?

What concerns me is the stark fact that the American public's fascination with things military is formed without substance—a popular notion that with just a little tinkering—and a few well-filled, olive-drab undershirts—the American military, the arsenal of democracy, will be all right. Heck, it's all right now. We could probably do without stealth bombers, but not without steely-eyed pilots with the g-u-t-s to take on whoever's in our way. Add to this notion a statement that I heard from one of those Soviet émigrés who traverse our land criticizing the United States, bemoaning the loss of his Mother Russia to the Soviets, and collecting a nice fee for his efforts: he observed that "the American army in Vietnam was never defeated in the field." Shades of Hindenburg, Ludendorff, and 1918—as well as a direct quotation from Colonel Harry G. Summers.

The implications of these little obfuscations are obvious to our camouflaged civilian brethren: If we would but take a look backward into that era, we would see that we did OK. We don't need to fix anything in our military today to stay that way. If it ain't broke, don't fix it. Also implied in that green and brown logic is the notion that you don't have to try to improve on your present preparedness or plan for the future.

Our current military dilemma of not only doing more with less but doing more with a whole lot less makes this kind of retrospective logic appealing. It goes something like this: "Let's take a break from research and development until we get this ol' budget balanced; then we'll throw money and technology in great heaps at whatever threat looms on the horizon and defeat the infidel if he dares attack."

Here's where the camouflage comes in. While the American people appear once again to understand, appreciate, and support the Defense Department's efforts, this public fascination with the military is, in reality, only another method of coping with Vietnam and all that it meant and means. It is not an endorsement or even an understanding of our present or future military challenges and needs. It popularizes the status quo postbellum instead of strapping on tomorrow's needs.

For in every "merc shop" selling authentic "Nam cams" by the truckload to the eager public dwells a soul who also sells the idea that we won *that* one and that the spirit of "can do" will do, without any help from planners, innovators or, God forbid, the budget makers. It is neither wise nor prudent to listen to this siren's song in anticipating the needs of the U.S. Air Force today or tomorrow. A look at today's threat will show that even if the Soviet Union brought no other new aircraft or missile system on line for the next five years, its current technological level and quantitative advantage would still pose extremely serious problems for us even at the end of that period, despite our best efforts to improve in the interim.

Even a drugstore Rambo can understand the logic of the Little Big Horn: sometimes "can do" just *won't do.*

Colonel Conway is Chief, Intelligence Division, Hq Air Force Reserve, Robins AFB, Georgia.

Letters

on extending our boundaries

In response to your November-December 1985 issue dedicated to space, I thought that a couple of points were worth emphasizing. Foremost is the synergism of the articles within the issue. Taken individually, the articles offer not much that is new, describing once again how the military uses space, how an offensive doctrine might be related to a defense-dominated world, and so forth. Repetition does have its value in reinforcing ideas. And it is the mere repetitiveness of some of these themes in close association that we ought to understand.

Lieutenant Colonel Charles D. Friedenstein ("The Uniqueness of Space Doctrine") describes most thoroughly the nature of the various levels of doctrine. Much of the issue is related to reiteration of what can best be viewed as organizational doctrine (such as Major General Thomas C. Brandt's article on the "Military Uses for Space"). But we do not seem to be getting to the real "gut issues" of a forward-looking doctrine in those articles and publications where we might expect such things to be written and discussed. J. F. C. Fuller has explained elsewhere how long-standing military ideas eventually become reality: "It may be, in the circumstances in which we live, right or wrong to use these newer weapons . . . yet it is utterly impossible to banish them from the memory of man, and, as long as they are remembered, a number of men will continue to think in terms of them, and, when circumstances are such that these weapons are likely to prove useful, it is a certainty that they will be made and used."

General Brandt alludes to these forward-looking ideas and challenges us to anticipate the changing character of war. Our current AFM 1-1 says that one of the main purposes of writing basic doctrine, according to General Charles A. Gabriel, is for us all to "study, evaluate and know our doctrine—for each of us, as professional airmen, has a responsibility to be articulate and knowledgeable advocates of aerospace power."

Yet associating the possibility of offensive doctrine to the realm of space has been taboo in the world of policy review, perhaps with good reason. That's why most articles on space and doctrine end short of pushing the subject in the same manner Billy Mitchell did with air power. We are told that the reason relates to ongoing arms negotiations and international relations. But that really begs the issue of distilling experience and formulating doctrine which will allow us to meet the future properly prepared. It seems the lack of printed discussions about the wartime uses of space stems from a prejudice on the part of some reviewers that we ought not intimate we are "militarizing" space.

As Under Secretary of the Air Force Edward C. Aldridge, Jr., has pointed out on several occasions, the "militarization" of space is neither new nor sinister. The move of the military into space began in 1958, and there have been few new ideas for the use of space that were not either tried or made operational in the first three years or so of space operations. This was not a sinister act intended to sully the high, untrespassed sanctity of space. Rather, it is a prudent and judicious use of valuable and scarce resources to do the best job of maintaining our national security and being prepared, should deterrence ever fail, to bring any conflict to a rapid and favorable conclusion for ourselves and our allies. But this sort of thinking is hard to get into print.

Reiteration of doctrine, as encompassed and somewhat challenged in your recent issue, is a valuable thing to do, since it ensures that all U.S. Air Force members and other readers can become acquainted with what our doctrine is. But we should continue to push the bounds of our thinking outward and not hesitate to discuss those subjects that may be a bit sensitive. There is value in controversy in that it stimulates discussion, and that causes an evolution of thinking.

I ran across an interesting note written in 1940 by the Assistant Commandant of the Army Command and General Staff School, Colonel Kinzie Edmunds, relating the principles of war, doctrine, and tactics. It points directly to the way we should be thinking when we write about where the Air Force is going, both in space and in the air. Colonel Edmunds wrote, "It is true that there are in the art of war some principles which we speak of as being immutable, as true today as in the days of Alexander. But these are general in nature and few in number. Their application in the development of doctrine and method, what is currently taught as good military practice, changes from year to year in accordance with opinion and investigation, with the development of new arms and the study of contemporaneous wars. Our doctrine is in many respects quite different from what it was ten years ago, and it will continue to change."

The essential element of the progress in doctrine comes not by its reiteration, but by our attempting to challenge it and its restraints.

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Department of the Air Force
Washington, D.C.

One article that particularly caught my attention in your November-December 1985 issue was "The Uniqueness of Space Doctrine," by Lieutenant Colonel Charles D. Friedenstein, USAF. The gist of the colonel's essay, if I understood him correctly, was that space travel is markedly different from atmospheric flight, and thus the axiomatic principles of war do not apply to space as they do to all other forms of terrestrial conflict. Not only is Colonel Friedenstein's premise wrong, but he continuously contradicts himself while ignoring strong empirical evidence to the contrary. For example, in explaining why satellites are inherently inflexible, Colonel Friedenstein writes, "If there is anything space systems do not have, it is maneuverability." Scarcely ten paragraphs later, while denigrating the principle of timing-and-tempo, he writes that ". . . the satellite may maneuver or reconfigure." In one paragraph he writes that satellites cannot create surprise by maneuver because they are "observable and predictable." Yet in the very next passage, he states, "For some time into the future, any battle in space will feature contestants wearing blindfolds that can be removed only for short (and different) intervals." These apparent inconsistencies are not as serious, however, as the errors he makes about historical perspective.

Colonel Friedenstein goes to great length to show how doctrine should be a direct derivative of the experiences of the past through his use of the "doctrinal tree." One would think therefore, that the colonel would first look at the development of air power doctrine in the early part of this century before making any assertions about the uniqueness of space. Had he done so, he would have found that the identical argument about uniqueness was made by air power theorists in the twenties and thirties. Many notable historians, such as Drs. Robin Higham, Noble Frankland, Williamson Murray, and Earl H. Tilford, have observed that a fundamental mistake made by proponents of strategic bombing between the two world wars was the erroneous belief that they possessed revolutionary weapons that had somehow negated the principles of war. Perhaps no one said it better than Anthony Verrier in his closing passage to his 1974 book *The Bomber Offensive:*

> Thus we are left with one clear reminder of a painful truth: The laws of war applied as much to the strategic air offensive waged in Europe's skies through five-and-one-half bitter years as they did to the sailors and soldiers on the distant seas or in the mud below. Occasionally, the airman may have felt he enjoyed a freedom of manoeuvre denied to admirals and generals. But the airmen died and the air force commander was defeated and stalemated unless the laws were

coming the negative impact of human nature described by Colonel Bingham. But it is certainly in the best interests of all concerned to start studying the true purpose of our various forces. The CAS mission is inexorably tied to the ground forces, and the Army already provides much of its own CAS through rotary-wing aircraft. V/STOL aircraft would fit logically into Army air power. We must overcome the parochialism that plagues us. The goal in considering innovations such as V/STOL should not be to protect "our" budget or to increase "our" force structure but to find the best way possible to protect and defend our way of life.

Major Thomas A. Ryle, USAF
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University of Texas, San Antonio

It was interesting that Colonel Bingham's article "Air Base Survivability and V/STOL Aircraft" carried the subtitle "A Gap in Air Force Doctrine?" As Colonel Thomas A. Fabyanic, USAF (Ret), pointed out earlier in the same issue, current doctrine is sufficiently abstract as to be "totally inappropriate for an institution that claims a responsibility to fly and fight." What Colonel Fabyanic seems to be saying, and Colonel Bingham's article supports, is that doctrine serves some function other than the basis for use of air power in combat. Air Force doctrine provides a bureaucratic foundation for decision making and mission definition in the U.S. Air Force. This foundation allows reasoned progress toward the objectives and dampens the influence of fads in decision making. However, doctrine also serves as a barrier to innovation and hence to progress. One reason for this is that Air Force doctrine is developed by those experienced with various missions for the purpose of supporting and justifying those missions. Doctrine is not developed by those geared to innovation.

Colonel Bingham's article points up one option for overcoming an obvious threat to future combat success, but unfortunately V/STOL operations are not a mission with which Air Force people are familiar. In addition, V/STOL aircraft do not currently have the capabilities that the F-15/F-16 aircraft possess and are therefore easily dismissed as a nonplayer in future operations. This dismissal, however, assumes that future operations will resemble past operations. If this assumption is correct, the dismissal of V/STOL is correct; if the assumption is wrong, it will fall to more innovative military services to develop this area of air power.

A classic example of the Air Force's abandoning an air power role is the tactical airlift mission, where decisions by Air Force people have abdicated a major portion of the tactical airlift mission to the Army's. This abdication resulted not from a conscious decision to subdivide and weaken the overall control of air power, but rather from a lack of familiarity with the helicopter and an inability to project technology from the mid-1950s, when the helicopter was an interesting anomaly, to the 1960s and beyond, where the helicopter has become a valuable method of exploiting the medium of aerospace. Recent advances in rotary-wing technology are also threatening the Air Force role in close air support, as the Army further develops its own internal capabilities.

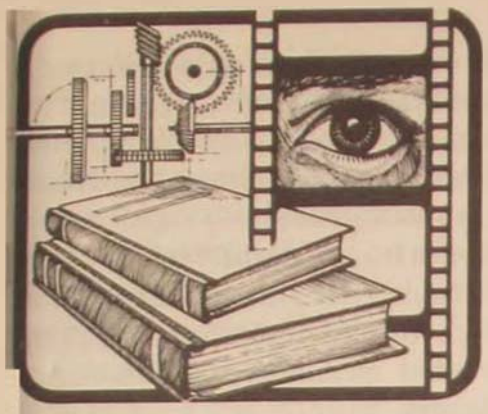
Other services are developing integral air arms to counter the inability of Air Force doctrine to recognize the need for quick-reacting air support, unencumbered by multiple layers of review and coordination. Do we see a future developing where the Air Force performs only specialized long-range missions, such as strategic airlift, long-range bombing and operation of airborne command (AWACS) and observation (TR-1) aircraft, while the Army, Navy and Marine air arms are involved in the direct contact with the enemy? Perhaps it is time to ensure that aerospace doctrine is developed to achieve maximum flexibility for operating in the aerospace medium of the future rather than to explain why we were successful in the past.

Major Carl R. Futoran, USAF
Chanute AFB, Illinois

education via Hollywood movies?

I would like to comment on Dr. Lawrence H. Suid's article "Hollywood and the Bomb" in the January-February 1986 issue. In my reading and on television, I have noted that interviews conducted on U.S. college campuses indicate a very disturbing lack of basic knowledge among a segment of our *educated* public. For example, some respondents had no idea how aircraft fly, how a television or computer works, or the exact location of California or Poland. One young woman knew that Peter the Great was the father of the Russian Revolution because she had seen "the movie." To such people, the idea that a computer in the bowels of the Pentagon could launch a nuclear attack is not at all implausible. After all, they've seen "the movie," so it must be true. Perhaps it's time to take our case to the courts like everyone else, i.e., movie malpractice.

Captain James K. Harkins, Jr., USAF
Keesler AFB, Mississippi



books, images, and ideas

INTELLIGENCE AS CINDERELLA

DR. WILLIAM M. LEARY

AMERICAN intelligence did not have a good year in 1985—or at least the *public* record left much to be desired. Uncovering spies in the Central Intelligence Agency, National Security Agency, U.S. Navy, and Federal Bureau of Investigation may be counted as a triumph by counterintelligence, but one cannot help wondering how many people are still

selling out their country for a few dollars. Did we have a legitimate defector who provided valuable information, or was Vitaly Yurchenko part of an elaborate Soviet plot to mask a high-level penetration of the CIA or NSA? Whatever the true story—and the permutations are endless—his handling by American "experts" raised a number of questions in the minds of intelligence professionals.

Meanwhile, relations between the CIA and Congress plummeted to a post-reform-era low. Senator David F. Durenberger (R-Minnesota), considered by many to be a strong and knowledgeable supporter of an effective intelligence service, charged that the CIA lacked a sense of direction. CIA Director William Casey replied by accusing the senator and chairman of the Senate Intelligence Committee of compromising sensitive intelligence sources and methods. Congressional oversight, Casey concluded, had gone seriously awry.

The past year, of course, may prove to be an anomoly. Perhaps 1986 will be free of new revelations about spies and counterspies, and perhaps Congress and the administration will work harmoniously to promote mutually agreeable intelligence objectives. However, as it seems far more likely that intelligence issues will continue to attract considerable attention, three recent books should enjoy a wide readership.

PART memoir and part analysis, *A Season of Inquiry* focuses on the Senate's 1975 investigation of alleged abuses by the intelligence community and the lawmakers' struggle to develop oversight procedures.† Author Loch K. Johnson brings impressive practical and academic credentials to the task. A political scientist, Johnson took leave of his university position to serve as an investigator for the Senate committee and aide to its chairman, Senator Frank Church (D-Idaho). He later became staff director of the Subcommittee on Oversight, a key subcommittee of the House Committee on Intelligence.

Johnson writes from a slightly left-of-center perspective as he describes in detail how Senate investigators (with some help from the press) overcame internal problems and administration stone-walling to uncover a sordid tale of unsuccessful assassination plots, botched covert operations, irresponsible drug experiments, illegal mail openings and burglaries, and other ethically repugnant and legally dubious activities. Distrustful of the Watergate-tarnished executive branch, the Church committee concluded that only new legislation and effective congressional oversight could bring return to "a healthy respect for the law in the conduct of our intelligence affairs." (p. 226)

Despite an evident need for closer supervision of the nation's intelligence services, the effort to establish a new Senate oversight committee encountered a near-fatal combination of powerful congressional vested interests in the Armed Services and Judiciary committees. Johnson credits then-Assistant Majority Leader Robert C. Byrd (D-West Virginia) with playing a key role in reaching an acceptable compromise agreement. Senate Resolution 400 established a fifteen-member Select Committee on Intelligence with authority over the intelligence community's budget and with the power of subpoena to collect information. The Select Committee received exclusive jurisdiction over the CIA but had to share jurisdiction over military and FBI intelligence with traditional standing committees.

Johnson ranks the Church committee's investigation as "one of the most significant inquiries conducted by the United States Senate." (p. 252) Just as Congress moved to check abuses

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†Loch K. Johnson, *A Season of Inquiry: The Senate Intelligence Investigation* (Lexington: University of Kentucky Press, 1985, $31.00), 317 pages

of presidential power in the wake of Watergate, it exercised the same responsibility when faced with intelligence officials who considered themselves above the law. Although Johnson acknowledges the dissent of critics who charge that the proceedings had an adverse effect on intelligence operations, he emphasizes the committee's accomplishments. Establishment of a permanent oversight committee might create security problems for intelligence agencies and pose political difficulties for the executive branch, but it was a necessary exercise of congressional responsibility.

A Season of Inquiry makes a powerful argument for the virtues of congressional supervision and the need for a permanent legislative charter for the intelligence community. While the author's faith in the wisdom and prudence of the legislative branch may be justified, historians are entitled to be less sanguine. When terrorism reaches American shores (as it surely will) and the American people rise up in fear and anger and demand better security, it will be interesting to see whether congressional concern with civil liberties exceeds that shown in 1942 in regard to the plight of Japanese-Americans in the nation.

As head of the Central Intelligence Agency from 1977 to 1981, Admiral Stansfield Turner had fewer problems with congressional oversight ("Getting along with Congress turned out to be a lot easier than anyone expected. . . ." [p. 146]) than with restructuring an organization that he found to be dispirited, inefficient, and on the verge of becoming unmanageable.† Not surprisingly, his policies provoked the hostility of many intelligence professionals (and their allies) who viewed him as a misguided, naive amateur full of potentially destructive ideas. *Secrecy and Democracy*—Turner's vigorous defense of his record and attack on the Reagan administration's handling of intelligence matters—seems certain to refuel the controversy.

When he arrived at Langley, Turner recalls, he found not one but three CIAs. Over time, the espionage, technical, and analytic branches had evolved into largely autonomous entities; none wanted the director to exercise a strong central authority over it. Turner, a product of naval organizational discipline and Harvard Business School, immediately moved to establish control. The main problem was the powerful, prestigious, and (he believed) overstaffed espionage branch. He ordered the implementation of an earlier recommendation to reduce the size of this branch by 820 positions. Although only 17 people were discharged and 147 were forced into early retirement (the remaining positions were eliminated through normal attrition and transfer), delivery of the necessary notices on 31 October 1977 led to angry charges that Turner had fired upwards of 2000 people, crippling the nation's espionage capabilities.

While acknowledging a certain insensitivity in the clumsy manner used to inform veteran CIA officers that their services were no longer required, Turner argues that the reductions actually "improved our espionage capabilities." (p. 202) The cutbacks affected only personnel at headquarters, thus freeing field operatives from unnecessary supervision and promoting efficiency. Opposition to his decision, while expressed in terms of national interest and compassion, in fact came from those CIA officers and retirees who viewed it as the beginning of a full-scale assault on the traditional independence and prerogatives of the espionage branch. "If I could summarily reduce the size of the espionage branch," he writes, "I might next begin to supervise what it did. The cry was over power and turf, not over the number of people

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†**Stansfield Turner, *Secrecy and Democracy: The CIA in Transition* (Boston: Houghton Mifflin Company, 1985, $16.95), 304 pages.**

required, nor was it sincere sympathy with individuals, each of whom had been selected by the branch itself for dismissal." (p. 201)

Undeterred by the furor following the "Halloween Massacre," Turner continued his efforts not only to establish effective central management over the CIA but also to reshape the agency's priorities. Turner did not oppose covert action per se, but he felt that it should not be accorded undue emphasis. He enthusiastically supported the continued development of technology, noting that computers and microprocessors had revolutionized the collection of intelligence. The CIA's greatest weakness, in his view, lay in interpreting the massive amounts of data collected by ubiquitous sensors and processed by powerful computers. Believing that analysis was the "Achilles' heel of intelligence," he sought to place more emphasis on the analytic branch. (p. 271)

Security considerations no doubt precluded a meaningful discussion of the CIA's role in the foreign policy setbacks of the Carter administration, although Turner does offer a general—and unpersuasive—defense of his agency's position, especially with regard to Iran. He admits that the CIA failed to identify the deeper currents running against the shah, underestimated the strength of Islamic fundamentalism, and overemphasized the government's stability; however, it had informed policymakers about the country's problems. Presidents Nixon, Ford, and Carter "either did not or could not get through to the Shah." (p. 116)

Secrecy and Democracy, as the title implies, is less concerned with operational matters than with the broader question of how to reconcile "the necessary secrecy of intelligence to the democratic process on which our government is founded." (p. 285) Originally based on a European model, the CIA had gone seriously awry by the 1970s. Turner saw his main task as establishing "an American model of intelligence," one more in harmony with "our democratic form of government." (p. 3) Intelligence need not suffer under this new system; on the contrary, it would be enhanced. Bringing secret intelligence under democratic control, he argues, would open "vast new opportunities to demonstrate the superiority of our democratic system through the employment of our intelligence capabilities to serve not only our nation but the rest of the world and all mankind." (p. 285)

Turner concludes with an "agenda for action." He deplores the Reagan administration's emphasis on covert operations and its "patent disdain for oversight," (p. 270) The intelligence community needs to be convinced that proper oversight is an asset, not a drawback; emphasis on covert action should be reduced; analysis needs to be improved; the espionage and analytic branches should be merged—"the only way to ensure that the espionage branch becomes a team player and updates its procedures to meet today's and tomorrow's requirements"; (p. 275) the role of the Director of Central Intelligence—in charge of the intelligence community—should be separate from that of head of the CIA, depoliticized and strengthened; more effective action needed to be taken against intelligence leaks; a charter should be enacted for the intelligence community. As William Casey does not seem to share his predecessor's views on intelligence (except for the one on security), it appears unlikely that Turner's recommendations will be implemented in the foreseeable future.

IN contrast to the urgent intensity of Admiral Turner's polemic, Walter Laqueur's *A World of Secrets* offers a sober, dispassionate appraisal of recent intelligence performance.

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†**Walter Laqueur, *A World of Secrets: The Uses and Limits of Intelligence* (New York: Basic Books, 1985, $21.95), 404 pages.**

Happily, the author (chairman of the International Research Council of the Center for Strategic and International Studies of Georgetown University) places his subject in rare perspective. While intelligence sometimes plays an important role in the policy-making process, more often it has been disregarded or ignored by high officials. As Laqueur points out, there is no all-powerful "invisible government." Indeed, in many ways intelligence has been "the Cinderella of contemporary politics: long hours, unpleasant work, humiliation, lack of recognition, and no Prince Charming in sight." (p. 4)

Laqueur rates the performance of U.S. intelligence since World War II as "uneven." For example, it deserves high marks for Vietnam, but it fares less well with Iran. Ironically, in both cases it mattered little. Decision makers on Vietnam dismissed or ignored inconvenient facts; with Iran, there was little that the United States could have done to shape the course of events even if better information had been available. The decisive factor, Laqueur emphasizes, "is always the capability to make use of intelligence." (p. 339)

Intelligence is a craft rather than a science. Although the United States has pioneered the development of sophisticated technical means of collection, modern machinery (as some believe) is not capable of supplanting the human mind. Laqueur agrees with Admiral Turner that there is an urgent need to improve analytic capabilities. The CIA should select good recruits and give them good training; then the agency should foster an atmosphere that promotes initiative and creativity. Intelligence will get better "only if those engaged in it reach a higher level of competence." (p. 312)

Laqueur argues that previous attempts to reform intelligence through organizational changes have produced few positive results. Indeed, there has been "an unhealthy preoccupation with managerial problems." (pp. 312-13) He much prefers a small, better trained agency, one less inhibited by bureaucratic restraints. "An intelligence organization," he stresses, "ought to combine orderly procedure with a maximum of freedom for creative thought and action." (p. 325)

The author concludes on a cautionary note. While intelligence is an essential service and an important element in the decision-making process, it is only a *service* and only *one* element. Good intelligence can identify options and consequences, but "it has no access to revealed truth: the days of 'Magic' are over in more sense than one." (p. 339)

AUTHORS Laqueur, Turner, and Johnson agree on the necessity for oversight of the intelligence community, and they believe that it has had fewer drawbacks than some critics have suggested. They consider analysis as intelligence's major shortcoming, and they urge reforms. Unfortunately, all fail to address one factor of growing importance: the impact of terrorism. This issue may well undermine oversight, and internal reform may well center on developing better antiterrorist capabilities rather than improving analysis. Whatever happens, the lively public debate of intelligence questions is certain to continue.

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DECISIONS ON A DEADLINE

CAPTAIN LYNN M. DAKIN

WE are all experts, and we all have something to say about it. We call it the news—that stimulating, explosive, hot-wired string of events that comes into our homes every evening, serves as the backdrop to our work environment, and, in printed form, eventually provides the lining for the bird cage. We watch the news religiously for a quick and easy encapsulation of our day. Yet, we all have reason to be wary of the medium and to grumble disparagingly about its power. The role of the news media has evolved beyond the simple influence of public opinion. Today, the news media put us on a deadline, the news deadline. Heaven help the decision that is made too late to be portrayed to our advantage on the evening news.

"TV news now has a much greater effect on national policy decisions—especially foreign policy decisions—than print journalism has ever had and more than most experienced observers realize," asserts former Carter White House Counsel Lloyd Cutler. "In a very real sense, events that become TV lead stories now set the priorities for the policy-making agenda."[1] Cutler terms this phenomenon the "TV doomsday clock."

The clock works doubletime for the uninitiated. The policymaker who does not understand the intricacies of the news media and their effect on public opinion is very likely to be the one put in the proverbial position of being caught with the pants down. "You have a profound effect on our careers, and there's nothing we can do about it," laments Rear Admiral James Service, president of the Naval War College, to media representatives at the school's Tenth Annual Military-Media Conference held in late 1984.[2] Former Army War College student Charles Cooper would disagree. Shortly after the Vietnam War, he concluded:

> The officer who understands the press can best communicate with it. The better he can communicate, the more accurate will be the judgment and comment. A battlefield commander is no longer answerable only to his senior. In times of greatest threat there will probably be a news representative with each heavily engaged unit, rendering judgment and commentary.[3]

Like it or not, the traditions of our country and its press, as well as the appetite of the John Q. Public for news, make this situation inevitable. The question is not whether the news media influence public opinion and resulting policy decisions but how to deal with that influence. Knowing the media and just whom you are inviting into your home every evening is a big step toward understanding that influence on public opinion. Comprehending the phenomenon of the news media's mass influence on public opinion and the resulting ramifications on timing and content of decisions is another step. Of greatest importance is learning to limit the influence of the news media.

The issue remains: What can a government do and what can we do to stop the clock that allows the news media to put us on deadline in a country finely tuned to freedom of information?

The national news media have an undeniable influence over public opinion. To understand the dynamics of this influence and how it affects decision making, knowledge of the scope and underpinnings of news media is crucial.

TELEVISION is the key instrument for reaching today's impressionable middle to lower classes. It is immediate and far-reaching, but more important, television is the favored medium for the mass audience that sways the tide of public opinion. A 1983 report found that blue-collar people (mainly high-

school-educated Democrats) trusted television news the most by a margin of 43 percent, compared to 25 percent for newspapers.[4] Many people surveyed preferred newspapers rather than television for local news, but research showed television as the overwhelming choice for national and international news.[5] A Gallup poll conducted in October 1984 revealed similar conclusions.[6]

There are more television sets in the United States than bathrooms, automobiles, or telephones. More than 98 percent of U.S. homes have at least one set; 85 percent have two or more.[7] *USA Today* reports that American television sets are now turned on seven hours and two minutes a day—fourteen minutes longer than in 1982. American Broadcast Company Vice-President for Research Roy Rothstein expects the upward trend to continue.[8]

As a form of communication with the capability to affect decision making, television surpasses the mass persuasion abilities of both newsprint and radio. Not only does it have the mass audience, but it also is in the format most conducive for persuasion. Warns Cutler, "If a picture is worth 1,000 words, sounds and pictures together must be worth 10,000." Cutler is quick to point out that "TV viewers cannot be selective unless they turn off the program altogether. A vivid account on TV news commands the attention and concern of most of the TV audience. The impact of TV news thus has major consequences for the policy agenda."[9]

This power that we give the news media, particularly television news, borders on awesome. The persuasive power of public opinion is in the media's grasp, yet the people relying on the news media for daily information rarely know who the media are.

THE news media are big business. The major networks, newspapers, and news magazines are owned by corporations with a singular interest—money. The fact is that fifty men and women, chiefs of their corporations, control more than half the information and ideas that reach 220 million Americans.[10] This information is more than an industrial statistic. It is dangerous enough that fifty corporations have so much power over the national consciousness, but even this circumstance understates the situation. Twenty-one of the fifty largest media companies are owned by Fortune 500 companies.[11] Ben Bagdikian, in his book *The Media Monopoly*, points out that many of these firms have a direct stake in foreign investments, which nurtures a natural interest in U.S. foreign policy decisions. Bagdikian's research highlights the fact that the boards of directors of many of these companies are interlocking with a great concentration of international industrial and financial figures dominating the major media corporations. For example, ABC has executives from the oil and gas industries, major banks, insurance companies, IBM, General Motors, and General Dynamics on its board. The second most influential newspaper in the country, the *Washington Post*, interlocks with CBS, Allied Chemical, IBM, Ford Motor Company, TWA, and Wells Fargo Bank. Writes Bagdikian, "Almost every major industry whose activities dominate news of the 1980s sits on controlling boards of the leading media of the country."[12]

Media power is political power. What is reported enters the public agenda. What is not reported may be lost forever from the unforgiving examination of the American public. More than any other source, these dominant media corporations can set the national agenda. Assuming this premise, it is important to know who the reporters are who work for these "masters." Studies show that the typical journalist is age thirty-two, white, and male. He is politically liberal to middle-of-the-road, has been brought up in a church-going environment, and believes that the press has considerable influence on the public—an influence that should be greater.[13]

Actual responsibility for the daily program rests with the executive producer at the net-

works, not with the reporter. Thus, a small group of people hold a lot of responsibility. Herbert Gans in *Deciding What's News* asserts:

> News organizations are not democratic; in fact, they are described as militaristic by some journalists, and the top editor or producer has the power to decide what gets into print or on the air, at what length, and in what order, subject only to suggestions or vetoes from news or corporate management.[14]

Considering the key positions of influence held by big business in the media structure, one may be amazed to learn that a survey done in 1982 found a tendency among the media to hold different values and opinions from those expressed by business leaders.[15] Although this finding would indicate some limits to the capacity of the "corporate press" to dominate journalistic ideology, there is no refuting the influence that the media has on forming or changing opinions. There are remarkable relationships between what reporters believe and what the public begins to believe.

TELEVISION news forms opinions with a pervasive power to persuade. A 1982 study by the Annenberg School of Communication found that people who watch a great deal of television are quite likely to give "television answers" to questions dealing with social and national issues. The term that this research group gave to this pattern was *mainstreaming*.[16]

Extensive television viewing appears to degrade individual values and attitudes until they are a melting pot of public opinion. The cultural and political television mainstream tends to absorb the divergent trends that traditionally shape the political process. The more people watch television, the more similar their biases become—even though they consider themselves liberals, moderates, or conservatives. Especially attention-getting is the survey finding that in response to questions about government spending, heavy-viewing conservatives and moderates actually respond with liberal answers on six of seven issues tested. It comes as no surprise that their attitudes mirror the liberal coverage of television news. "Viewing blurs traditional differences, blends them into a more homogeneous mainstream, and bends them toward a 'hard line' position on the issues," the study analysts stated in their summary.[17]

The broadcast media also effect change by attacking the "latitude of acceptance" that people tolerate around their attitudes. If a message is not rejected outright, it falls within this latitude of acceptance and is not ignored. If a new message is perceived as being close to the norm, the natural tendency is to move in the direction of the new message. This can move people almost imperceptibly toward a whole new set of attitudes or a new value system.[18]

TELEVISION holds a tremendous persuasive capacity, yet even such a powerful institution as television faces problems with the public. Plain, old-fashioned trust is probably the toughest limitation for the media to overcome. In 1976, the National Opinion Research Center found that 29 percent of the population had "a great deal of confidence in the press." Reports in late 1983 (shortly after the media's self-interested coverage of Grenada) show that this figure fell to a new low of 13.7 percent.[19] Other figures are just as brutal. A Gallup poll reported in July 1985 indicated that confidence in television news had gone from 37 percent in 1973 to 29 percent in 1985.[2]

The qualification of trust is well-founded. Since 1976, 85 percent of 106 major libel verdicts by juries have been defeats for journalists, and two dozen of these verdicts involved damage awards of more than $1 million.[21] The new media have proved that they are not infallible.

"The function of the press, in the public's view, is really to counterbalance the power of the government," says William Schneider, political consultant to the *National Journal* and the *Los Angeles Times*.[22] A. J. Langguth, Profes

sor of Journalism at the University of Southern California, amplifies the subject:

> Let me just point out that the public is a lot less naive than you think. Basically, the public distrusts the press, and it distrusts the government. And it has only one place where it puts its faith. I think that it's pretty well placed. It puts its faith in the process. Namely, it believes very cynically . . . in the competitive process. This competitive process is the only thing the public trusts completely. And I think it's a wise choice.[23]

Trust of the media is a moot point. The plain truth of the matter is that people are going to get their information someplace, and they are more disposed, by about two to one, to believe what they see on television news. "It's because seeing is believing," says Schneider. "People are more inclined to believe what they see with their own eyes, which is how they get the news on television."[24]

"Sometimes TV's influence is all to the good; sometimes it is bad," comments Cutler. "But it's always present, and learning how to adjust to it is central to the art of governing today."[25] Perhaps a tougher assignment is learning how to deal with the resulting effects of public opinion on policy decisions.

TELEVISION'S news deadlines affect us in several ways. There is little doubt that television news forms and changes public opinion. Perhaps a bit more challenging is understanding how the resulting public opinion affects policy decisions.

The first effect is a clock. Pushing through a half-planned decision based on fear of missing the news deadline is more serious than actually missing the deadline. Missing the deadline can damage credibility, however, or keep the media from showing both sides of the story.

Content is the other killer. The driving fear is how the report will affect public opinion. National politicians and decision makers need the support of positive public opinion. The visual impact and timeliness of television news is a crucial vehicle toward gaining support. The impact of television news slices through to the very core of the decision-making process and hits hard in shaping public opinion. Decision making is on a deadline. Vietnam, Iran, and Grenada serve to exemplify this.

THE Vietnam conflict was more than a conflict between governments. It was the first conflict between television news and the making of policy. We have all heard the tired descriptions of the "war that CBS brought home into our living rooms." It is a cliché developed from fact. Fact: the Vietnam War received a high degree of initial support. Fact: as American casualties increased and the possibility of success dimmed, so did public opinion.

Many critics of television's coverage of Vietnam claim that the media lost the war. The media did not do so, but the role they played in influencing public opinion certainly had an impact. Comprehensive examples of unbalanced coverage are found in Ernest Lefever's analysis of CBS News coverage of the war during 1972. His analysis concludes that in a total of 131.10 minutes of military-related coverage, unfavorable comments totaled 81.30 minutes. The balance was heavily weighted to the negative—62 percent unfavorable, compared to a mere 8 percent favorable.[26]

The decision of famous television personality Walter Cronkite to make it a personal vendetta to express his views regarding the war during his broadcast every night is often pointed to as a turning point in public opinion toward the war.[27] His negative commentary, combined with the visual impact of bringing the war home into our living rooms, certainly did not help to improve the opinion climate.[28]

The political reality of vociferous opposition in the streets played a dominant role in ultimately infuencing the actions of political leaders. The riots were flames fanned by media coverage. Politicians were forced to listen. In the final analysis, Cutler's summation serves as a suitable endnote:

> Vietnam was the first comprehensively televised war. Its enormous cumulative impact in shaping public opinion helped force three consecutive presidents to modify their war-fighting policies and ultimately to abandon the effort entirely.[29]

THE seizing of the U.S. embassy staff in Iran serves as another example of decisions on a deadline and the relationship between policymaking and the media's effect on public opinion. The drama of the event was heightened in the United States by media attention. As the days of captivity ticked by, the daily news broadcasts would invariably end with the statement: "This is the 121st (or 242nd or 363rd) day that our hostages have been held in Iran." Yellow ribbons were tied around trees to symbolize coming home. The national Christmas tree was kept dark. President Carter postponed campaigning for his party's nomination for reelection.

Five years later, former State Department spokesman Hodding Carter acknowledges that daily reports heightened the public sense of anger and frustration. The media's arousal of public opinion increased the hostages' political value to the Islamic revolutionary movement, and the pressure of public opinion ensured their continued captivity.[30] When that situation is compared to reactions concerning the American hostages still being held in Lebanon, Hodding Carter points out that the Reagan administration has been every bit as impotent but is getting away with it by refusing to talk about the situation. Rejecting terrorist demands, the Reagan administration has made no public attempt to free the hostages—a sharp contrast with President Carter's response to the Iranian hostage-taking. "If I were to do it all over again, I would do it that way," said Carter, referring to the Reagan approach. "The Carter administration made such an issue of it that Iran kept raising the price."[31]

From time to time, the Carter administration tried to play down the hostage crisis so that world attention would abate and quiet diplomacy would have a chance. But the constant drumbeat of TV news removed that policy option. By the time President Carter approved of the military plan to rescue the hostages, he was backed into a corner and had no other choice.[32]

THE Grenada invasion was a flag-waving tribute to good timing. The initial thumbs-up on the operation came at a very opportune time. President Reagan made the decision to invade Grenada within a day after TV news aired the numbing pictures of the truck bombing of the U.S. Marine barracks in Beirut. The impact of the pictures from Lebanon on the President and the American people hastened his decision to take bold and prompt action when opportunity knocked in another part of the world. Cutler points out, "For good or ill, the Grenada decision will affect U.S. ties with Latin America and Western Europe for many years. But TV news shortened the time available to weigh these consequences."[33]

Although the Grenada operation is a good example of how public opinion can be diffused by diverting attention elsewhere, it is also an example of how the news media can make an issue of nothing. The issue in Grenada should have been the foreign policy decision—not whether it was wrong to have a party and not invite the press. Oddly enough, the public apparently saw this difference. Senator Robert W. Packwood (R-Oregon) claims that calls to his office were ten to one in favor of the U.S. action taken. A poll by ABC News indicated that the public backed the invasion by a margin of 58 to 32 percent.[34] In 500 letters and phone calls to NBC, viewers supported the press ban in Grenada five to one. ABC anchor Peter Jennings said that 99 percent of his mail from viewers on the issue supported President Reagan's decision to ban the media. *Time* magazine's 225 letters on the issue ran almost eight to one against the press.[35]

The media's campaign against the restric-

tions was remarkably short-lived. "Their effort did not succeed in marshaling public opinion to their cause but rather pointed up their own credibility problems with the American public," wrote Colonel John Lunt in a paper assessing the media's actions.[36]

"The reason why most people supported American involvement in Grenada was that it worked," affirmed political consultant William Schneider. "It was a success. Support for government censorship was strongly related to approval of the action itself.... Support for the general principle of freedom of the press was totally unrelated to people's feeling about Grenada."[37] One year later, a Gallup poll confirmed Schneider's theory. Fifty-nine percent of the people surveyed believed that the press should be allowed to accompany American soldiers into combat zones.[38]

THE rising power of television as a medium of communication has given rise to new theories of dealing with the news media. Past government policy has tended toward maximum disclosure of information in a minimum amount of time. The assumption has been that easy accessibility to the government helps ensure complete, two-sided coverage. Those who believe that we are dealing with a world full of adversary journalists disagree with that concept. Their tactic is to "hang up on Dan Rather. The worst that can happen is he'll say you were unavailable for comment." But a third theory is gaining momentum as governments face the reality of electronic influence—a practice of controlling the media.

Accessibility becomes particularly notable when one looks at current events of the past two decades. Hand in hand with accessibility is believability. In Vietnam, instead of the traditional practice of accepting the government's official release of information on the progress of the war (which even General William Westmoreland has now conceded was distorted), the press gathered its information from lower-level officials who told a different, more believable story.[39] Some of the more senior officials in Saigon were persistently overoptimistic. According to veteran correspondent Charles Mohr, "the reporters quickly became aware of this because brilliant young field officers increasingly turned to the journalists. The reporters did not invent the somber information that sometimes appeared in their stories."[40] They did not need to because the information came to them.

The importance of official accessibility is again demonstrated with a simple jog of the memory. In the summer of 1982, the news media were getting their first whiff of U.S. involvement in Central America. The problem of accessibility became apparent when the Sandinistas of Nicaragua hired a public relations firm to promote their cause. In contrast, the Salvadoran government refused to talk to the media. As a result, the reports on Central America that the public received from the news media were obviously one-sided, complicating the problems in the Reagan administration's involvement in Central America. According to a 1983 survey, 28 percent of the people polled knew nothing of the Reagan administration's policy in Central America. Another 25 percent did not know whether the administration's policy was hostile or favorable to the Nicaraguan government.[41] Even today, there are not too many people who could answer as simple a question as: Which side are we on?

An example of using accessibility to the administration's benefit without playing into the hands of the media is to review President Reagan's use of the press conference. His method in dealing with the media has become so famous that it is now demonstrated to military commanders being taught to deal with the news media. Very simply, Reagan's style of accessibility is designed to appear open and informal while, in fact, he never loses control of the situation. The President answers probing press conference questions with the answer he wanted to make known all along—regard-

less of the question's direction. Another way he uses the guise of accessibility to advantage is the fireside chat. Many presidents have used the fireside chat to their advantage—it is a way to say what they want without fear of being edited. President Reagan's knowledge of the television medium makes him particularly proficient at being "accessible" to the people.

HANGING up the phone on the media is the natural tendency of anyone with something to lose. Military commanders fit that category. Their careers can ride on a statement that finds its way to the six o'clock news. A myth is prevalent in the military—even though the facts contradict it—that the press somehow "lost" Vietnam. "There is a bunker mentality," an officer acknowledged at a seminar during the Naval War College Military-Media Conference. "We hide when the press comes. That seems to be in our best interest."[42]

Writer Vic Gold takes the idea of hiding one step further. He advocates hanging up. "When the problem at hand is dealing with an adversary journalist," writes Gold, "today's public relations specialists are out of touch, still operating under rules that were laid down in the golden age of flackery, before Vietnam and Watergate."[43] He says what is needed is a new form of adversary public relations to deal with the new adversary journalists. Key to his solution is his first commandment: "You have a right to remain silent." What's the worst that can happen? The reporter will simply say that you were unavailable for comment or refused to talk to reporters.

Unfortunately, as delightful as Gold's idea sounds, it does not track with the government's policy of answering queries completely and quickly. Hanging up is fine for a corporate chief executive who is worried about stockholders or lawsuits, but the government has chosen a path of having nothing to hide. Rather, hanging up is simply the path of least resistance and often is more likely to draw further probes by the media than to cool them down.

ONE final but extreme ploy to limit the effect of the media on policy decision is to use government power over the media The Soviets are experts at disinformation, o *dezinformatsia*, and have used the method fo years both in their own controlled press and th world's free press. The British proved highl successful at controlling the press through cen sorship during the Falklands War. All thing considered, the United States was quite success ful when troops were sent into Grenada and th press corps was left behind.

"The Leninist mission of the Soviet press i to shape public opinion at home and to influ ence—or confuse—it abroad," says *New Yor Times* correspondent Raymond Anderson.

> The Soviet leadership dislikes undertaking an dangerous or controversial action without firs having prepared public opinion. If studied alertl the controlled Soviet press will, over time, pro vide clues to Moscow's seemingly enigmatic in tentions and behavior.[44]

One example cited by Anderson is the Olympi boycott. Only members of the Politburo wi ever know whether the Soviet Union ever in tended to send competitors to Los Angeles. Ac cording to Anderson, the signals were in th Soviet press as early as September—nine month before the deadline. In September during th year preceding the games, Soviet Press Attach Vladimir Mikoyan told U.S. journalists tha the Soviet Union was troubled about trav arrangements for the athletes in Los Angele about living quarters, and about safety. Fou months later, in January, Marat Gramov, hea of the Soviet National Olympic Committe accused the State Department of interferin with travel arrangements and complained a security problems in Los Angeles. "In April writes Anderson, "the newspaper *Sovetsky spo* printed a chilling account of conditions i L.A.—of violent lunatics and people waitin

to entice Soviet athletes to defect."[45] In May, the official word came from Moscow: Soviet athletes would not be participating.

The British controlled their press in a much less dictatorial manner during the Falklands War. They used censorship of their news media, and they controlled access to the fighting, but the purpose of these actions was so readily apparent that journalistic complaints were little more than a whimper. Twenty-nine journalists, technicians, and photographers sailed with the British fleet. By the time they finished covering the action, 600 dispatches and fifty hours of broadcasting tapes were sent home. They worked under a pool concept where their work was made available to other journalists back home after close censorship by the government. Lieutenant Commander Arthur Humphries, U.S. Navy, studied the public affairs aspects of the war and came to this conclusion:

> If you don't want to erode public confidence, you cannot allow the public's sons to be wounded or maimed right in front of them via their TV sets at home; therefore, you must control correspondents' access to the fighting; you must invoke censorship in order to avoid aiding the enemy; [and] you must tell your side of the story first for the psychological advantage of forcing the enemy to play catch-up.[46]

The big difference between the British and Argentine media strategies was that disinformation from the British was intended to deceive the Argentines, whereas the Argentine junta intended its disinformation against its own public.[47]

The U.S. invasion of Grenada was in some respects a similar situation. The big difference, however, rests with the fact that the United States chose not to allow news media into the battle zone rather than using censorship as the controlling factor. The administration's public reasons for this restriction were that reporters had to be barred to maintain a vital element of surprise and that American forces were not able to guarantee reporters' safety. The media were given access to the area only after initial fighting was over. The first media representatives were to use a pool concept where any information obtained was expected to be shared with the 400 or so colleagues waiting for their return from the island.

Restrictions that the administration put on the press were hailed as intolerable violations by the media. Although the media's Grenada was more a battle for the right to unrestricted coverage of news than it was a show of American power, their clamor for justice did result in the government's Sidle Commission Report issued a year later promising to allow initial media pool coverage in the future. The control so cheerfully imposed by the administration worked in Grenada, but Air Force Colonel John Lunt warns that barring news media in the future is "likely to be a greater issue under less favorable circumstances."[48]

LIKE it or not, we live in a world dramatically influenced by the news media, and the media's power over public opinion is a force that must be reckoned with. The people who chuckle with glee over winning the war against the media in Grenada are displaying a dangerous ignorance of the situation. The fact is that today's mass appeal of television has thrust us into an era where the news media no longer merely report the events of the day but actually shape the day's events.

Policy decisions do not revolve around the media, but there is little doubt that the media must be a consideration in successful decision making. Any Vietnam veteran can tell you firsthand the effect of negative news coverage on public opinion, and ultimately, on policy decisions. The trouble is that this is the same person who stubbornly clings to the archaic notion of not needing the news media.

With the news media's unique ability to influence masses of people at one time, the next war we fight, whether against an enemy with guns and ammunition or an enemy controlling

the purse strings, must be with the news media on our side.

The social role of the news media can be better controlled, but it can never be shackled. The self-proclaimed role of power is the core of a free press and is a value we have chosen to pursue despite the costs. A free press is a symbol of democracy in the world. Although we lament occasional media atrocities, we also acknowledge the worthiness of fighting for that freedom.

We have a problem. The free press is a symbol of our country's strength—something to fight for. Yet at the same time, the free press is a limiting factor to our effectiveness as a nation. The key to coexistence is understanding and respecting the scope of power that the media controls. The news media must not be allowed to control us, however, and the doomsday clock of the news deadline should not be ours. Armed with a firm understanding of the dynamics of news media influence, we can be in a position of control rather than one of being controlled.

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Short Bursts

Preventing Nuclear War: A Realistic Approach edited by Barry M. Blechman. Bloomington: Indiana University Press, 1985, 224 pages, $22.50 cloth, $9.95 paper.

Competing visions of a future world "beyond deterrence" exists in the public imagination: a massive reduction in the size of nuclear arsenals or even complete disarmament; the eventual deployment of perfect defenses making nuclear weapons obsolete; or "peaceful coexistence" ensured by unprecedented improvements in Soviet-American relations. It is understandable that such radical solutions to the nuclear dilemma are sought, for even a single failure of deterrence would have catastrophic results. Yet, while such developments may be necessary to end the threat of nuclear war, they are clearly distant objectives on the horizon, not realistic alternatives for the near term.

Preventing Nuclear War, a superb collection of essays, is more practical and modest in its objective: to identify realistic, if limited, measures that could reduce the risk of nuclear war in the coming years, even if radical changes in weaponry or superpower relations do not emerge. The essays share a common assumption that, while the maintenance of a strong U.S. nuclear deterrent posture is necessary to deter deliberate Soviet aggression, cooperative measures between the two nuclear rivals can be mutually beneficial if they dampen the competition and reduce the risk of accidental war or inadvertent escalation. Therefore, the book focuses not so much on possible arms control agreements that reduce the arsenals or on the possibility of strategic defenses, but rather on a limited set of confidence-building measures that might improve communication and understanding between Moscow and Washington in a crisis.

Barry Blechman and Richard Betts provide two complementary assessments of the Nunn-Warner proposal for a jointly manned U.S.-Soviet crisis control center. Betts correctly observes that the most optimistic hope that such a center could eliminate superpower crises is based on "a dubious conception of East-West relations that sees conflict as the unnecessary product of misunderstanding or unfounded mutual suspicion." Still, both he and Blechman argue persuasively that a crisis control center might play a very useful role in reducing the future danger that nuclear terrorism, or use by a third party, could lead to superpower conflict.

Wade Williams's chapter "Expanding the US-USSR Military Dialogue" is based on nearly a dozen interviews with recently retired senior U.S. military leaders. Almost without exception, the group endorsed the view of General David Jones, former Chairman of the Joint Chiefs of Staff, that regular meetings of high-ranking American and Soviet military officers (like the unusual meeting between General Jones and Marshal Orgarkov on the fringes of the SALT II Summit in 1979) might reduce ambiguity in an adversary's actions and improve understanding of each other's military policies. The former officers suggested two areas in which military-to-military dialogue can be most productive: first, a continuation and strengthening of the quite successful Incidents at Sea Agreement; and second, discussions of military exercises and intelligence-gathering activities in Europe where such actions might be misinterpreted during times of superpower tension.

A particularly interesting essay is Victor Utgoff's on the potential development of on-site automated monitoring devices. Utgoff's novel idea is for the United States and Soviet Union to station automated microwave radars 50 to 60 kilometers from each other's ICBM silos, as a supplement to overhead and regular ground-based warning systems. Although Utgoff acknowledges that the reliability and redundancy of current tactical warning systems make the chances of an "accidental" launch of ICBMs on false warning very remote, he argues that this extra warning system, if designed to be both tamperproof and highly reliable, could usefully further diminish the risks of accidental war. Furthermore, since the Soviet Union accepted some degree of on-site inspection during the negotiations on the Comprehensive Test Ban, the political obstacles to such arrangements may not be insurmountable.

Finally, *Preventing Nuclear War* contains a number of useful appendixes, including Secretary Caspar Weinberger's Report to Congress on "Direct Communications Links and Other Measures to Enhance Stability" and the texts of the 1963 Hot Line Agreement with its 1971 and 1984 amendments. This information will be extremely useful to students of arms control and nuclear strategy. Most important, by focusing our attention on practical measures that might be achievable in the short run, the authors remind us that small, but useful steps

toward a safer nuclear world need not be deferred while longer-term solutions are designed.

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Beyond the Hotline: How Crisis Control Can Prevent Nuclear War by William L. Ury. Boston: Houghton Mifflin, 1985, 187 pages, $14.95.

William Ury is the Director of Harvard's Nuclear Negotiation Project and an internationally recognized expert in crisis mediation and negotiation. His book, *Beyond the Hotline*, is an excellent introduction to the subject of crisis control. It is easy reading, can be read at one sitting, and does not require the reader to be an expert on nuclear arms control issues.

Ury works from the premise that the next time the superpowers are involved in a deep crisis, one in which the use of nuclear weapons seems likely or has already occurred, American and Russian decision-makers will be wishing that they had taken certain actions or held certain discussions with their opposition counterparts. Too late, they will realize the need for a formal crisis control system that could have better prepared them to defuse the crisis or to have avoided it altogether. Ury's book is a catalogue of what those actions and discussions should be. Moreover, he argues that they should take place now so that a formal crisis control system can be established in time to deal with the next crisis.

Ury lays out the history of crisis control and charts a path for its future. He offers a structure for a crisis control apparatus in the form of jointly manned crisis control centers in Moscow and Washington. Linked by state-of-the-art communications, their mission would be to prevent war due to accident or miscalculation. This idea has already received the unanimous support of the U.S. Senate. As Ury points out, crisis control is in the best interest of both superpowers and appeals to hawks and doves alike. He also asks his readers to help generate political support for a formal crisis control system.

Ury's style is refreshing. His ideas are easy to understand. He doesn't give the reader a hard sell, nor does he claim that crisis control is a magic answer. He even presents arguments counter to his ideas and admits that there may be problems with some of the elements of his crisis control principles. For example, jointly manned centers could be used for propaganda or disinformation purposes. Ury simply lays out the issues that surround crisis control and invites his readers to decide for themselves.

Beyond the Hotline suggests that the development of crisis control mechanisms may be the main thrust of future arms control agreements. This suggestion has merit. While everyone seems to agree that arms reductions are desirable, achieving verifiable treaties to bring them about remains difficult. The introduction of cruise and mobile missiles into the strategic nuclear arsenals of both superpowers promises to increase the complexity of verification problems. Indeed, because such missiles can be concealed more easily, counting each other's arsenals to verify arms limitations may become impossible. Moreover, concealment and mobility are likely to be seen as necessary defensive measures that increase stability. After all, unless a high degree of mobility is a characteristic of a missile system, the increasing capability of counterforce weaponry makes a target of any missile that can be verified. This circumstance creates a tension between the verification required for arms limitation agreements and the need for deployment modes that enhance stability. The way out of this dilemma may be to agree to conceal strategic forces and make them mobile to decrease their vulnerability. Thus, the focus of arms control efforts may be more on ensuring that weapons are not used rather than on how many exist. Ury's crisis control ideas are methods of doing just that.

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The Age of Vulnerability: Threats to the Nuclear Stalemate by Michael Nacht. Washington: Brookings Institution, 1985, 209 pages, $26.95 cloth $9.95 paper.

Michael Nacht evaluates seven threats to what he calls the nuclear stalemate: the insecurity of the Soviet leadership, the resurgence of American "anti-communism," the deployment of high-accuracy weapons, the adoption of doctrines for "fighting nuclear wars," the frictions between the United States and its European and Japanese allies, the failure of negotiated arms control, and the prospects for nuclear weapon proliferation. He concludes that political and technological conditions continue to provide national leaders with enormous disincentives to use nuclear weapons. He advises, however, that concentrated efforts to control the mutual deployment of certain counterforce weapons would lend further stability to the "nuclear stalemate."

Nacht properly notes that the Soviet Union "combined its significant growth in military power with an aggressive foreign policy that took many in the West by surprise." (p. 5) He cites the 1973 Soviet-North Vietnamese violations of the Paris Peace Ac

cords, the aggressive Soviet behavior in the October 1973 war in the Middle East, the Soviet introduction of Cuban troops in Africa, the Communist corps in Afghanistan and South Yemen, and the Soviet violations of the 1975 Helsinki agreements. All of these actions forced the West to wake up and abandon the unilateral freeze on nuclear weapon systems adopted in 1967 by the Johnson administration. Nacht credits President Reagan with dramatizing the U.S.-Soviet imbalances, while rebuilding U.S. defenses.

Where I fault the author is in his tendency to discuss U.S.-Soviet relationships in terms of "two superpowers," as though there was no difference in value systems and as though a Soviet offense could be equated with the U.S. defense. Nacht states that "the dominant trait of the Russian national character is a pervasive insecurity, which even the top Soviet leaders always feel." (p. 7) In his book *Survival Is Not Enough*, Richard Pipes provides massive evidence that this oft-cited Soviet insecurity is a myth. He documents the frequent Russian and Soviet attacks to the west and south, and he concludes that on balance the Russians and later the Soviets have attacked their neighbors far more than they themselves have been attacked.

The tendency to excuse Soviet behavior has most recently been noted in Afghanistan, where the 1979 Soviet invasion was termed by some "experts" as essentially defensive in character.

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The Militarization of Space: U.S. Policy, 1945-84 by Paul B. Stares. Ithaca, New York: Cornell University Press, 1985. 334 pages. $25.00.

Paul Stares has written an important and timely contribution to the discussion of U.S. space policy. *The Militarization of Space* reviews the origins of the U.S. and Soviet space programs and their development to the present. The discussion covers the essential history with judicious selection of important information and lucid explanation of its implications.

Stares's historical and technical overview demonstrates that U.S.-Soviet space activities grow out of the superpower competitive relationship. Neither nation strives to improve its space technology or its military exploitation of space because of some technological imperative. Nevertheless, both superpowers have occasionally created technology bloopers that have been aborted, and they have sometimes misjudged one another's intended uses of space technology (worst-case estimates abound).

The widespread popular image of Soviet technical inferiority in space missions will not stand up against the information presented in this book. The Soviet military program has, from its inception, been scientifically astute and militarily oriented. The Soviet Union is no more likely to concede the "high ground" to the United States than we are to them. The implications for the Strategic Defense Initiative (SDI) are all too obvious.

The strength of *The Militarization of Space* is its historical and contemporary information about U.S. and Soviet antisatellite (ASAT) weapons development. The volume will be a standard reference source on this topic. One limitation is that the focus is too exclusive on technology history, with insufficient explanations about the strategic and geopolitical contexts within which the technology becomes important. The relationship between ASAT and SDI, in the context of theories about crisis and arms race stability, does receive specific attention. Stares suggests that we cannot place great hopes on arms control to limit ASAT competition but that arms control can play specific, limited roles in restraining deployments. On the other hand, attacks on satellites may (absent more robust technologies) risk more than they might gain; the more valuable the satellites of the opponent, the more likely he will be to assume the worst if they are destroyed. Thus there may be some autolimitation in the superpowers' destabilizing uses of ASAT, despite their temptations to proliferate the appropriate hardware.

Dr. Stephen J. Cimbala
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Rethinking the Soviet Experience: Politics and History since 1917 by Stephen F. Cohen. New York: Oxford University Press, 1985. 222 pages, $17.95.

Stephen Cohen tells us at the outset that he is "offering the reader a small book about a large subject." That is an understatement. *Rethinking the Soviet Experience* is a series of essays, somewhat loosely related to one another.

Chapter 1 is a study of the nearly uniformly Sovietophobic viewpoint of American Sovietology. Cohen observes appropriately that for many American specialists, travel in the Soviet Union is "a distasteful professional duty," and that fact alone signals the strident bias that lies behind the outlook of the profession in this country. These observations are certainly, in the main, correct, although there are exceptions to the rule. However, Cohen's account of the American literature is abruptly summary and

more than a little arrogant.

Chapter 2 is focused on the question of an intrinsic link between Leninism and Stalinism. It is written in a style of some indignation against the view that there is a necessary relationship between the political systems of the two progenitors of the modern Soviet state. It is all the more remarkable in that it ignores two of the leading books on the subject, Leonard Schapiro's *The Origins of the Communist Autocracy* (1977) and Boris Souvarine's *Stalin: A Critical Survey of Bolshevism* (French edition, 1935; English, 1939).

It is in chapter 3 that Cohen's viewpoint is most distinctly elaborated. He believes, not surprisingly (Cohen is the biographer of Nikolai Ivanovich Bukharin), that Bukharin provided a viable alternative to Stalinism. In fact, in chapter 3, *Rethinking the Soviet Experience* becomes a good deal of an impassioned Bukharinist tract. We would all like to believe that the Bolshevik Revolution contained a good fairy like Bukharin, but Cohen does not make his argument persuasively. He has leaned heavily on Moshe Lewin's *Russian Peasants and Soviet Power* (1968), but, in my opinion, the evidence of Lewin's work does not allow us to believe in the Bukharinist alternative.

Chapter 4 is an account of Stalin's reputation in the Soviet Union since his demise. It is not so polemical or controversial as the earlier parts of the work. (It would have been pertinent to take into account the effective anti-Stalinist story of Fazil Iskander, "Balshazzar's Feasts.")

As for the future of the Soviet system, Cohen makes the point that has been made repeatedly during the past fifteen years: the Soviet system is not a monolithic totalitarian society but has substantial elements of pluralism in it. Scarcely anyone denies this idea these days. On the other hand, Cohen does not mention one of the strongest and most challenging pressure groups in the Soviet Union today, the increasingly evident Russian nationalist movement (see John B. Dunlop, *The Faces of Contemporary Russian Nationalism*, 1983).

In summary, Cohen has given us too small a book about too large a subject—and too smug a book as well.

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Afghan Alternatives: Issues, Options, and Policies edited by Ralph H. Magnus. New Brunswick, New Jersey: Transaction Books, 1985, 400 pages, $29.95 cloth, $12.95 paper.

Afghan Alternatives comprises the papers and discussion of a conference held at the Monterey Institute of International Studies, California, in November 1983. Although the conference was held more than two years ago, the issues involved for Afghanistan, the region, and the world remain virtually unchanged and these papers are as pertinent today as in 1983. Brigadier Noor A. Husain, Pakistan Army (Ret), presents the situation in a worst-case scenario as a "megacrisis" for control of the population of South Asia and much of the world's oil reserves. While the conference participation was limited in numbers, it brought together some of the most knowledgeable and astute observers of the Afghanistan situation from North America, Western Europe, and Southwest Asia. The general tenor of the content of the papers is that although the Soviets do not want to withdraw from Afghanistan for reasons of international security, discouragement of superpower aggression, and, not the least, independence for the Afghan people dictate continued international effort to encourage their withdrawal.

Among the topics approached from various perspectives are the possible outcomes of the Afghanistan situation and the nature, weakness, and strength of the resistance movement. Marvin G. Weinbaum's description of a spectrum of alternatives (none of them optimistic) and Eden Naby's analysis of the composition and objectives of the resistance leaders and parties are outstanding. Considerable attention is given to the resistance disunity, and Robert G. Neumann points out how that undermines the resistance's ability to establish a diplomatic presence.

Taking a different slant from most observers on the importance of Islam in the struggle, Charles A. Adams makes a perceptive comment. Noting the secular interests of young Central Asians, including the Afghans, he discounts the ability of Islam to motivate the people in a positive way toward a resolution of Afghanistan's problems.

Both Thomas E. Gouttierre and Louis Dupree declare the military necessity for the *mujahidin* to take the war to the cities. Gouttierre states that it is a misperception to minimize Soviet military progress as only controlling the urban centers and the road network while the *mujahidin* hold most of the country. The city of Kabul may not be Afghanistan in a social sense, but it *is* in a political sense and it is the true national center. Dupree reminds us that Algerian independence was not achieved by battle in the countryside but in Algiers itself.

Claude Malhuret is the most optimistic commentator. He maintains that the Soviet policy of "migratory genocide" has worked in only one country—the Soviet Union itself. Elsewhere, where op-

portunity for sanctuary exists in adjacent countries, as it does for the Afghans, neither the Soviets nor their proxies have been able to quell guerrilla movements.

Virtually all observers of the Afghanistan scene concur with Jira Valenta's statement here that the United States and other nations must continue to pressure the Soviets through a two-track policy using both diplomacy and military aid to the resistance to convince the Soviets that a conquest of Afghanistan will not be accepted. Harmon E. Kirby, representing the State Department at the conference, states that U.S. policy is to get the Soviets out and that a multitrack approach featuring bilateral and multilateral efforts, humanitarian aid for the refugees, and support of the U.N. mission seeking to resolve the problem is being pursued. Valenta believes that the Soviets may be "leaving open an ideological window" for a possible withdrawal, as they do not define Afghanistan as a "socialist" but as a "socialist-oriented" nation.

Most of the ideas and options developed in *Afghan Alternatives* are not new, as most of the participants have stated their positions previously in various publications or in other forums. Nevertheless, for those seeking to understand the complexities of the Afghanistan situation and U.S. policy in that region, this volume, ably edited by Ralph H. Magnus of the Naval Postgraduate School, Monterey, California, will be rewarding.

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The Falklands War: Lessons for Strategy, Diplomacy, and International Law edited by Alberto R. Coll and Anthony C. Arend. Winchester, Massachusetts: Allen and Unwin, 1985, 252 pages, $27.50 cloth, $12.50 paper.

The Falklands War grew out of a conference at the University of Virginia Law School. The work is divided into three major categories dealing with international law, diplomacy, and the implications of the Falklands/Malvinas conflict for future military and political strategy. It is an edited work, whose authors are mainly academics.

For military officers who are generally familiar with the operational aspects of the Anglo-Argentine war, the most useful chapters deal with the legal and historical ramifications of this complex issue. It may also surprise American readers to learn that one early Argentine administration in the islands in 1831 was removed forcibly, not by the British, but by an American force.

Of interest, too, is the manner in which the war was fought by both sides. The laws of war meant something here. The last time such manners were observed was probably during the North African campaign when the British and the Afrika Korps met. In the South Atlantic, prisoners were exchanged almost as soon as they were captured. (Contrast this practice to the grubby behavior of combatants in practically every other war since 1945.) One notable, localized exception to this adherence to honorable manners may have been the Argentine violation of the white flag, under which they shot a couple of advancing British paratroopers. The British troopers subsequently killed the entire unit.

The Falklands War is well crafted and complements the more technically and operationally oriented books previously reviewed in this journal. It is readable for both layman and specialist and is a valuable addition to the slowly growing historiography of this South Atlantic dispute.

Dr. Peter M. Dunn
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Brennan's War: Vietnam 1965-69 by Matthew Brennan. Novato, California: Presidio Press, 1985, 275 pages, $17.95.

Brennan's War is another in a long series of first-person accounts by Vietnam veterans. These books tend to follow a predictable formula, with graphic descriptions of combat and carnage, individual disenchantment with the war, and severe readjustment problems. While containing these elements, Matthew Brennan's account has a character of its own. A veteran of three tours and 400 helicopter assaults, Brennan provides an interesting comparison of the conduct of the war at various time periods.

As an idealistic eighteen-year-old, Brennan volunteered to serve in Vietnam in 1965. After an initial tour spent in relative safety, he extended to experience the real war. When he joined a 9th Cavalry Sabre Blue unit as a forward observer, Brennan became part of a well-trained, disciplined, and successful combat unit. His description of these early combat years for Americans in Vietnam does not contain the expected accounts of an illusive enemy, drug abuse, and fabricated body counts. Morale was good, and victory seemed possible. A committed soldier, Brennan became a skilled and responsible leader. His actions earned him three Army Commendation Medals, the Bronze Star, the Silver Star, and three Purple Hearts.

Away from the war, Brennan could not settle into normal life-style. Life was slow, and daily concerns seemed trivial. His restlessness led him to reenlist. When he returned to Vietnam to the 199th Infantry Brigade, the war had become a holding action. The Tet offensive had demoralized American troops. The draftees sent to Vietnam in the late years were unmotivated and undisciplined; drugs were omnipresent; ill-prepared officers made damning errors; carelessness was common. The Vietcong moved freely in areas once secure. American victory was no longer a concern. Brennan's treatment of this tour is vitriolic. His experience led him to resign his commission and seek classification as a conscientious objector.

Although Brennan does not dwell on his ultimate readjustment problems, his anger flares when he mentions the treatment of Vietnam veterans. Today Brennan holds a Ph.D. in anthropology from Harvard, and he and his wife live in a log cabin in Kansas, where he pursues a career as a writer.

Some readers will criticize this book as a macho glorification of combat. It is not. For readers who have tired of stories about unstable, drug-dependent veterans, *Brennan's War* offers a different perspective. The book is easy reading and an interesting, different account.

Jeanette R. Dunn
Spartanburg, South Carolina

The War Everyone Lost—And Won: America's Intervention in Viet Nam's Twin Struggles by Timothy J. Lomperis. Baton Rouge: Louisiana State University Press, 1984, 192 pages, $22.50.

As the quest for what Vietnam meant continues, Timothy Lomperis joins a growing list of individuals who present a revisionist perspective on the meanings and lessons of the war. Pursuing the argument of Harry Summers's *On Strategy* (1981), the best known of this genre, these neoorthodox revisionists emphasize the conventional nature of the war, a traditional conflict between two separate political entities—North and South Vietnam. They reject the view that the United States was defeated by the revolutionary strategy of a Maoist peoples' war. Rather, South Vietnam was beleaguered by an external military force and overrun after the United States withdrew from a military contest that it had the ability to win.

Lomperis goes beyond Summers to construct a complex argument that the war was two-dimensional. It was a thirty-year struggle for national legitimacy between the successive South Vietnamese governments and the Communists. In larger context, it tested the viability of the revolutionary strategy of protracted peoples' war. Who controlled power in South Vietnam was only half the issue. According to the Communists, how they achieved power was as important as power itself—for legitimacy, the right to govern, stemmed from the means of gaining authority. Thus the United States fought to prevent the Communist takeover in the South and to discourage the spread of guerrilla revolutionary movements in other parts of the globe.

The abysmal failure of the Tet 1968 uprising and the crushing military defeat forced the Communists to abandon their highly touted protracted war strategy. Ultimately, they did gain power, but Lomperis contends that in a major sense they failed because they forfeited revolutionary legitimacy. Although the collapse of South Vietnam spelled defeat for the United States, the denial of the purported peoples' revolution and the absence of any discernible general uprising scored a telling blow to the idea of the inevitability of successful revolution. South Vietnam was lost, but Lomperis concludes that America's military success had won an important triumph.

This argument is provocative, and the perspective of viewing the history of Vietnam in terms of the ongoing quest for national, and later revolutionary, legitimacy does force us to see things in a different context. However, all of this could have been developed in a long article. The bulk of the volume, a history of the Vietnam experience drawn largely from secondary sources, is a sound narrative, but it often appears peripheral to the thesis. One suspects that the narrative serves primarily to expand a challenging idea into book length. The original manuscript was an award-winning Ph.D. dissertation; however, the book still smacks of the all-too-common padding of dissertations.

More important, when I reflect on the actual thesis, I cannot help but be reminded of Colonel Harry Summers's remark to a North Vietnamese colonel at the end of the war that the U.S. military was never defeated on the battlefield; the North Vietnamese officer retorted, "That may be so, but it is also irrelevant." Power is the ultimate reality. Ideological rationales are unabashedly flexible. That the North Vietnamese Communists control the country is the salient issue for most South Vietnamese and for those who witnessed from afar America's failed investment. All else is semantics, and winners, not losers, determine orthodoxy.

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Vietcong Memoir by Truong Nhu Tang with David Chanoff and Doan Van Toai. New York: Harcourt Brace Jovanovich, 1985, $17.95, 350 pages.

While American involvement in the Vietnam War has received considerable attention over the years, we still know comparatively little about the opposition—the Vietcong (VC) and the North Vietnamese (NVA). Indeed, the historical record may well remain skewed for some time, given the obvious problems of limited access to documentary evidence on the NVA/VC. This fact makes the appearance of *A Vietcong Memoir* of particular interest to students of war.

Truong Nhu Tang was both a founder of the National Liberation Front (NLF) and a member (Minister of Justice) of the Provisional Revolutionary Government (PRG) of South Vietnam. In *A Vietcong Memoir* he tells the story of his journey from an interested observer of budding nationalism in 1945, to roles as organizer, cabinet member, and diplomat in the 1960s and 1970s, to his ultimate escape from Vietnam in 1978. It is a trip marked by success and tragedy, elation and bitterness. His experiences and thoughts are presented in a gracefully written and emotionally stirring account that does not offer dramatically new information on the war but does expand our knowledge concerning some of the gray areas.

Tang was far from a wild-eyed revolutionary. Coming from a privileged background (five brothers would be in various positions of power in South Vietnam), he came to support revolution only slowly. Exposed to the postwar nationalist fervor in Vietnam and particularly influenced by a personal meeting with Ho Chi Minh in Paris, Tang gravitated toward an anticolonial stance that would govern his life for the next thirty years. The oppression and corruption of the Diem regime, coupled with America's support of it, led to his final decision to participate in the formation of the National Liberation Front. The anguish involved in choosing sides and the secretive life forced on an NLF agent exemplify the emotional and human side presented in this work. Yet this section of Tang's account is one of the few less satisfying areas because the nature of the relationship between the NLF and North Vietnam remains clouded.

Though Tang was able to conduct covert recruiting during his term as director general of the National Sugar Company, his activities were finally exposed in 1967. He was arrested and spent almost a year in jail before being released in a prisoner exchange. His imprisonment during the Tet offensive unfortunately limits the information he might have presented on the NVA/VC roles in this crucial battle.

The last sections of Tang's narrative describe his role as Minister of Justice in the Provisional Revolutionary Government formed in 1969. Particularly interesting are his descriptions of the conflict between the Communist party ideologues from the North and the moderate elements of the PRG concerning control of the revolution and the question of reconciliation after the 1973 treaty; the problems involved in spending six years in the jungle headquarters of the PRG; the fear generated by the American bombing raids; and the turmoil created in the wake of the 1970 incursion into Cambodia (Kampuchea).

Tang concludes his book with his repeated theme of Northern betrayal of the South; indeed, *A Vietcong Memoir* is dedicated in part to his "betrayed comrades." The Democratic Republic of Vietnam (DRV) policies of arbitrary arrests, extended reeducation camps, and rapid reunification under socialism—all developed without significant consultation with the PRG—led Tang and others to withdraw from an active role in the new regime. Interestingly, his attack on the DRV is far more severe than his criticism of the South Vietnamese government and the United States. The depiction of his final escape from Vietnam as one of the "boat people" reads like a chapter in an adventure novel.

Some of Tang's contributions may be questioned: his stress on the viability of the 1973 treaty; his contentions concerning the defensive nature of the NVA/VC actions after 1973; and the alleged magnanimous plans of the PRG. Also, one would like more information than what is here on the Tet offensive, the effects of the Phoenix program, and the degree of influence that North Vietnam had on the revolution in the South. In fact, what may be the biggest disappointment for the reader of *A Vietcong Memoir* is that Tang could have told us much more about the South and the North and about himself. Nevertheless, the book makes a positive contribution to our perceptions of the political side of the war. Let us hope that more works of this type will appear in the future.

Dr. Noel C. Eggleston
Radford University, Virginia

The Rise and Fall of an American Army: U.S. Ground Forces in Vietnam, 1965-1973 by Shelby Stanton. Novato, California: Presidio Press, 1985, $22.50, 411 pages.

The Rise and Fall of an American Army is not about "an" American Army, but *the* American Army. Its focus is on the deployment and employment of ground forces in Vietnam (both Army and Marine Corps), but its underlying theme is the consequences of the U.S. government's failure to mobilize for that war, especially the refusal to call up reserve components. As a result, not only were "the Regular Army and Marine Corps . . . extended far beyond their ability to wage and control a distant, full-scale war," but the Army eventually was not ready for combat anywhere else in the world.

Emphasizing the struggle between American ground units and regular units of the North Vietnamese Army, Shelby Stanton vividly shows that the war consisted of more than small unit patrols, limited ambushes, and wanton destruction of helpless villages. He also shows that while American ground forces won General William Westmoreland's "big unit war," they took their licks in the process. On the other hand, the author tends to slide too lightly over the small-unit aspects of the struggle.

One of the major strengths of *The Rise and Fall of an American Army* is its discussion of the rapid deployment of units to Vietnam in 1965 and 1966. The story of this buildup reminds the reader that the frictions of war are not confined to the battlefield. Especially interesting, in light of potential world trouble spots today, are the logistical problems encountered in deploying thousands of men, then hundreds of thousands, to a distant and unprepared country. It was here that the lack of Reserve and Guard mobilization was particularly felt, since many of these units were intended to provide essential combat support and combat service support.

In addressing the internal problems that the Army faced as the war dragged on, Stanton has no surprises but does provide useful reminders. First, the decline in morale began in the rear and took longest to affect combat units. Second, to concentrate solely on the latter part of the war does a disservice to those units and individuals who performed well under trying circumstances. Third, while political considerations certainly lay at the root of the matter, the Army itself must share responsibility for its problems. These included the lack of unit cohesion, the constant rotation of company and field grade officers, the development of a "fire-base psychosis," the imbalanced "tail-to-tooth" ratio, and the failure to adequately pass along combat lessons. Stanton's illustrations support the cliché that the Army didn't have ten years of experience in Vietnam, but one year of experience ten times.

Supplementing the text and assisting the reader are maps, a comprehensive index, and a bibliography. Moreover, in an interesting effort to provid a sense of heritage, Stanton introduces each majo unit with a footnote that briefly traces its comba lineage. Army readers will find this feature espe cially interesting. However, given the turmoil he s vividly describes, including the creation, disband ment, and re-creation of units, one wonders if unit really did have distinct personalities that "becam almost fused with a soul-like quality."

The Rise and Fall of an American Army breaks n new ground, nor does it seek to "expose" individual or institutions. Rather, it is a solid work which more descriptive than analytical, offers useful in formation for the student of the ground war ir Vietnam.

Lieutenant Colonel Robert C. Ehrhart, USAI
Hq USAI
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The Two Vietnams: A Political and Military Analysis by Bernard B. Fall. Boulder, Colorado: Westview Press, 1985, $42.50, 341 pages.

The classic work by Bernard B. Fall, first published in 1963, is again available. This comprehensive study of Vietnam, all too unfamiliar during its past life in the mid-1960s, is must reading for us today. Why? The literature on the Vietnam War is improving and proliferating as revisionists look at the war with the advantage of perspective. Good works, by the likes of Thomas Boettcher, Bruce Palmer, George Herring, and Stanley Karnow, to name but a few, are taking their place beside the classic works of Guenter Lewy and Bernard Fall.

Old Indochina hands often would read Bernard Fall before going "in country." Certainly, they should have. In one of the most revealing passages in General William Westmoreland's *A Soldier Reports*, the general notes that he kept "several works by Dr. Bernard Fall" beside his bed in his quarters but "was usually too tired in late evening to give the books more than occasional attention."

Thanks to Westview Press, professional officers can own and read many of the classics. Fall's books certainly demand our attention, and *Hell in a Very Small Place*, *Street without Joy*, and *The Two Vietnams* are basic to any coherent study of the Vietnam War. Purchase these books, read, and then reread them. You will be a better officer for the effort.

E.H.T.

Vietnam, the Valor and the Sorrow by Thomas D. Boettcher. Boston, Massachusetts: Little, Brown and Company, 1985, $27.50 cloth, $14.95 paper, 394 pages.

The new generation of military history students is too young to remember the Vietnam War. Readers of an older generation were involved in the war, either as combat participants or as viewers of daily TV updates that brought the war right into their homes. Another category of reader includes the academicians, the scholars, and the teachers and their students. To this diverse readership, Thomas Boettcher's *Vietnam, the Valor and the Sorrow* spans the gap of audience experiences and successfully presents under one cover an objective history, a good collection of war stories, and the best synthesis to date of those social and political forces that resulted in the U.S.-Indochina War known as "Vietnam."

Boettcher begins with the necessary treatment of the French colonial period and yet does not present the rambling account of the French Empire along with Vietnamese dynastic change frequently found in books on Vietnam. He does provide a concise, credible history of the French experience as it would later relate to the American response to Vietnam. Boettcher then gives the reader a clear chronicle of the post-World War II emergence of the bipolar world, the cold war, and McCarthyism, all necessary topics to understand the framework of "why Vietnam." At first, the United States castigated France for its resumption of Asian colonialism after the Second World War. We refused to give the French aid in their war in Southeast Asia but then replaced France in our own Indochinese war. Boettcher explains very clearly how this change of policy evolved.

Vietnam, the Valor and the Sorrow does not disparage U.S. military efforts in combat. On the contrary, Boettcher shows definite sympathy for the troops in the field. His chapters on the land war and the air war are filled with human interest stories that give the reader empathy for events that most readers will never experience. For the reader who did participate in the war, these chapters will bring back vivid recollections.

At this juncture, the book is a fair, unbiased account of events and history. But Boettcher is blunt with his feelings toward the advisors to the Kennedy and Johnson administrations. It was this group, not the generals, says Boettcher, that brought the country into a war that was ill-planned and ill-conceived. He does not present a "politicians stabbed us in the back" scenario. But the facts and the events as we now know them form a bias in the same manner as the weight of evidence leans against one side in a jury trial. Boettcher describes a paper war game of a conflict in Southeast Asia. General Curtis LeMay led one team. A cadre of Ivy League Ph.D.'s, advisors to the President, were on the other team. Given the rules and restrictions of the exercise, LeMay concluded that the United States could not conduct a successful air war in Vietnam. The Ivy League advisors, former World War II clerks and technocrats now playing generals without having been soldiers, concluded for President Johnson that bombings, with constraints, were necessary. The credibility of articulate civilian scholars carried more weight than that of a cigar-chomping general. Therefore, we bombed. The author notes that at this stage the war was Harvard's, not West Point's.

The last chapter is unique because of the sensitivity and complexity of the issues—the peace talks, the press, and the protests. Time and perspective have permitted Boettcher to be fair and comprehensive in integrating these diverse issues into one chapter. The students protesting on the campus were not leftist dupes, but there were opportunists who took advantage of the unrest. The press was not anti-American, yet the daily, negative chronicle of war took a toll on the American attitude. The peace talks were conducted in private but were certainly influenced by public opinion. The talks, the press, and protests are dealt with as they should be, together.

With more than 500 photos and a collection of anecdotes adjunct to the main text, this is certainly the book on Vietnam for the teacher, the student, the curious reader, or the veteran. For any category of reader, this one volume best answers these questions: "What happened then?" or "What happened there?"

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The Bloody Road to Panmunjom by Edwin P. Hoyt. New York: Stein and Day, 1985, 320 pages, $18.95.

Edwin Hoyt's book, *The Bloody Road to Panmunjom*, is just that—"bloody." While it is another well-written exposé of the American military at war put out by Stein and Day, publishers of the text for the famous television series "World at War," it adds nothing to the study of the Korean War. Hoyt's manuscript opens with a brief synopsis of the North Korean invasion of the South, in June 1950, which predicated the Korean War. From there, he quickly leads the reader through the early crisis days in Pusan, to General Douglas MacArthur's daring Inchon landing, and to apparent allied victory in November 1950. At this point, Hoyt focuses on the central theme of his book—the Chinese invasion of Korea on 25 November and the two difficult years remaining in this perplexing conflict. In his consistently graphic account of the war, he reviews Presi-

dent Truman's controversial dismissal of MacArthur and General Matthew Ridgway's often frustrated efforts to maintain the allied position during the intermittent peace talks at Panmunjom.

Hoyt, a former associate editor of *Collier's Magazine*, a writer-producer for CBS TV News, and an assistant publisher for *American Heritage*, is the author of other popular books on military history, such as *The Pusan Perimeter*, *On to the Yalu*, *Guadalcanal*, *The Glory of the Solomons*, and *U-Boats Offshore*. As in his previous works, Hoyt's exciting journalistic style makes for enjoyable reading; and those who are interested in good spare-time reading will love this book. Unfortunately for the serious scholar, Hoyt's text has numerous problems. First of all, *The Bloody Road to Panmunjom* is based completely on secondary sources and contributes no original material or research. On the few occasions when Hoyt attempts to analyze important events, such as the Panmunjom talks, he fails to delineate any new ideas or theories that might persuade the reader that his writing covers any new ground or uncovers any new evidence to support his all-too-often chauvinistic and myopic assertions. In short, all of the Americans and allies are "good guys," and all of the Chinese and North Koreans are "bad guys." Such a simplistic treatise adds nothing to the already abundant literature on the Korean War.

Certainly, other books on the Korean War, such as David Rees's *Korea: The Limited War*, Douglas MacArthur's *Reminiscences*, Glenn D. Paige's *The Korean Decision*, Matthew Ridgway's *The Korean War*, Rovere and Schlesinger's *The General and the President*, and Allen Whiting's classic *China Crosses the Yalu*, which provide both an exciting style and significant research, are far more important contributions. In fact, most of what Hoyt contends has previously been expressed far more effectively by Whiting.

In their advertisement, the publishers contend that *The Bloody Road to Panmunjom* probes the significance of an important war that we have too often tended to forget. Sadly, Hoyt's effort would seem to do little to change this neglect. While his book may interest those who love war stories, it provides little unique, original, or significant research, analysis, or understanding of the Korean War or military history. Most of us are aware of general and specific American heroism in Korea. The understandings and insights we need to know—why and how we fought in Korea—are not provided by *The Bloody Road to Panmunjom*.

Dr. William Head
Wright-Patterson AFB, Ohio

The Devil's Birthday: The Bridges to Arnhem, 1944
by Geoffrey Powell. New York: Franklin Watts, 1985, 276 pages, $18.95.

The literature dealing with Operation Market Garden, the most costly Allied defeat of 1944, is vast. Historians and participants alike have dealt with the struggles for the bridges at Eindhoven and Nijmegen as well as for the key position, the "bridge too far" at Arnhem. *The Devil's Birthday* is, however, the first book by a British writer to deal with the full story of the complete operation. The author, Geoffrey Powell, is well qualified to do so. He was an officer in the 156th Parachute Battalion and fought with the British First Parachute Division as the division, including his battalion, was decimated in the Arnhem fighting. He has done extensive research in public and private military records and diaries, as well as with many survivors, including the British and American military commanders who planned and executed the operation. The result is an important contribution to understanding the reasons for the failures leading to Allied defeat.

Powell, a retired Regular officer and admirer of Field Marshal Sir Bernard L. Montgomery, outlines clearly Montgomery's objectives and frustrations in planning Market Garden and obtaining approval for its go-ahead. Montgomery's conduct of the operation comes in for considerable analysis, even criticism, however, as Powell describes the field marshal's strangely uncharacteristic apathy and lack of personal involvement as things began to go wrong. Powell also analyzes the characters and operational abilities of the major and minor Allied and German leaders (General Sir Brian Horrocks, Brigadier General James M. Gavin, Major General Lewis Hyde Brereton, and Field Marshal Walther Model, among others) as they conducted their parts of the operation in, around, and south of Arnhem. He is able to integrate the activities of the British and Polish airborne forces, from firsthand knowledge, with those of the elite U.S. and British troops struggling to take and hold the bridges and roadways that were Arnhem's only hope of relief. The roles played by the Dutch people and the subsequent sufferings of these people are also a part of *The Devil's Birthday*. In addition, Powell comments, with remarkable restraint, on the lack of adequate close air support for the operation and on the lack of aggressiveness on the part of the experienced British XXX Corps tankers as they supposedly raced northward to relieve their airborne comrades.

Excellent overall and situation maps, along with an absolutely essential chain-of-command chart, complement the very readable text to produce a book that, although poorly titled, presents perhaps the

best overall history yet of a very unhappy episode of the Second World War. I recommend *The Devil's Birthday* highly for the general military reader.

Dr. Don E. Alberts
Kirtland AFB, New Mexico

Mountbatten by Philip Ziegler. New York: Alfred A. Knopf, 1985. 784 pages. $24.95.

There are certain military leaders whose careers are so important, so varied, and so fascinating that they cry out for a major biography. Admiral of the Fleet the Earl Mountbatten of Burma is one such leader; Phillip Ziegler's *Mountbatten* is such a biography.

From the time he joined the Royal Navy as a midshipman in 1916 until his retirement as Chief of the Defense Staff in 1965, Lord Mountbatten held appointments ranging from a junior ship's officer to captain of a destroyer; from commodore of a destroyer flotilla to chief of combined operations; from Supreme Allied Commander, Southeast Asia, to viceroy and governor-general of India; from commander of a cruiser squadron to Commander in Chief, Mediterranean Fleet, and NATO Commander in Chief, Allied Forces, Mediterranean; from First Sea Lord (Chief of Naval Operations) to Chief of the Defense Staff (Chairman, Joint Chiefs of Staff). The range of his long career is perhaps equaled only by that of General of the Army Douglas MacArthur (a comparison Ziegler also notes). The great difference between these two men lies in two facts—Mountbatten was never a military genius, as MacArthur was at his finest; Mountbatten was a far greater human being, who never sank to the depths of MacArthur at his worst.

By the time Lord Mountbatten died, at the hands of IRA terrorists in 1979, he had accumulated an enormous amount of material for a future biographer. Ziegler has had full access to this mass of data. In addition, he has interviewed, or corresponded with, virtually everyone alive who knew Mountbatten. From this enormous storehouse of source material, Ziegler has written a book that will stand the test of time.

Ziegler makes clear that he had a free hand in writing this work, after the admiral's family chose him to undertake the task. His account of Mountbatten's career is balanced, lucid, thoughtful, and often humorous. He notes the admiral's failings as a sailor, his vanity, his impetuosity, his ego, and his many other faults.

However, Ziegler finally concludes that Mountbatten was a great man, who transcended the confines of the navy he loved to become an able chief of combined operations, a capable supreme commander, a well-nigh brilliant viceroy, and an effective and forceful professional head of the navy and of the defense establishment.

Mountbatten is as close to being the standard biography of its protagonist as is likely to emerge for the foreseeable future. The book is well researched, well balanced, and concise. Perhaps a measure of Ziegler's success is to be seen in the campaign now under way by Mrs. Barbara Cartland (romance novelist and friend of the admiral) to produce a counterblast to this work. One feels that Lord Mountbatten would have been amused.

Historians of warfare and professional officers should read this work. *Mountbatten* will both inform and entertain—a rare combination indeed.

Dr. W. Robert Houston
University of South Alabama, Mobile

Kempei Tai: A History of the Japanese Secret Service by Richard Deacon. New York: Berkley Publishing Group, 1985. 301 pages, $3.95 paper.

Kempei Tai is the sixth book that Richard Deacon has written on intelligence agencies. Before penning it, he examined the espionage history of Britain, the United States, Russia, Israel, and China. By way of comparison, he notes in his introduction that oriental secret services date back to a much earlier period than those of the Western world. In terms of stereotyping, Deacon sees Israel's secret service as totally single-minded, Russia's as excessively conspiratorial, America's as damagingly immature, England's as unduly secretive, China's as unusually enigmatic, and Japan's as refreshingly imaginative.

Deacon's overview of the Japanese intelligence operation begins with the late-fifteenth-century activities of Hideyoshi and concludes with a discussion of the birth and early successes of Japan's post-World War II secret service. Throughout, Deacon emphasizes the fact that Japan is unique in that she has a far broader, more visionary conception of intelligence than any other power. He argues that, of all peoples of the world, none more than the Japanese desire knowledge for its own sake.

Major contributions of *Kempei Tai* include fascinating accounts of Japan's intelligence preparations for the Russo-Japanese War, the Pearl Harbor attack, and the breaking of the Sorge spy ring. Major shortcomings are a rather superficial grasp of the Japanese character and, in the references cited, omission of several scholarly works that would have either altered or strengthened Deacon's account.

Dr. Gerald W. Berkley
Auburn University at Montgomery, Alabama

The Superstrategists: Great Captains, Theorists, and Fighting Men Who Have Shaped the History of Warfare by Colonel John R. Elting, USA (Ret). New York: Charles Scribner's Sons, 1985, 368 pages, $22.95.

Colonel John Elting skillfully employs a lively, witty, and highly readable style in presenting a tour de force of generals and generalship over the past 2500 years. We learn through memorable and deftly selected anecdotes and aphorisms that guarantors of success in one century ("an army . . . that could march a few paces more an hour, fire a round more a minute, . . . endure getting killed a few minutes more than the average") would seal one's fate in the next. We meet a wide variety of military characters along the way, from Herodotus ("If he ever did any soldiering, it probably was a brief spell as a yardbird spearman, second class, in the rear ranks of his hometown phalanx") to Douglas MacArthur, whose divorce from his equally self-admiring first wife was predicted by John Pershing "because there was only one full-length mirror in the MacArthurs' quarters."

Because so much ground, temporal and geographic, is covered so quickly (Napoleon receives the most attention at eleven pages), the reader will not be transformed into a superstrategist himself on closing the back cover. Rather, he will find that some generals were wildly successful because they took care to protect their supply lines, yet others succeeded because they purposefully neglected theirs; that some profited by engaging opposing forces directly, but others moved toward victory by constantly finessing head-on confrontations through deception and maneuver.

To bring order out of the potential chaos, the author has included a short appendix that succinctly outlines the familiar principles of war that have been confirmed in blood through the ages. In the course of the body of *The Superstrategists*, when a particular strategist refers to or employs one of the principles, it is italicized—a modest device that binds the volume together. Reading the appendix first is not a bad idea for newcomers to the subject.

Air power enthusiasts will be disappointed by the treatment accorded Billy Mitchell and the sparsity of reference to other air power strategists. Similarly, little space is provided to practitioners of sea power outside a short section on Mahan. But all this is excusable because, as we might expect, *The Superstrategists* overwhelmingly focuses on land warfare and the colorful characters who have practiced it.

Elting has written a first-class, highly literate ten-chapter foray into the personalities that populate military history. Unfortunately, there are eleven chapters. In "Pandora's Little Box," we are treated to the author's poorly substantiated views on Soviet-duped "useful idiots" in the West, the nuclear balance, international terrorism, Soviet adventurism, the failure of graduated response in Vietnam, and KGB efforts at subversion, which inevitably degenerate into a familiar litany of how the monolithic Soviets do everything right and our hamstrung democracy does everything wrong. After enjoying 300 pages of well-researched and vibrantly presented interpretive military history, the reader expects and deserves better. A well-reasoned capstone essay on required qualities for "superstrategists" of the twenty-first century would have better served the interests of both reader and author.

Lieutenant Colonel Ronald E. Blum, USAF
Mershon Center
Ohio State University, Columbus

AWARD

The *Air University Review* Awards Committee has selected "Clausewitz: Eastern and Western Approaches to War" by Colonel Harry G. Summers, Jr., USA (Ret), as the outstanding article in the March-April 1986 issue of the *Review*.

the contributors

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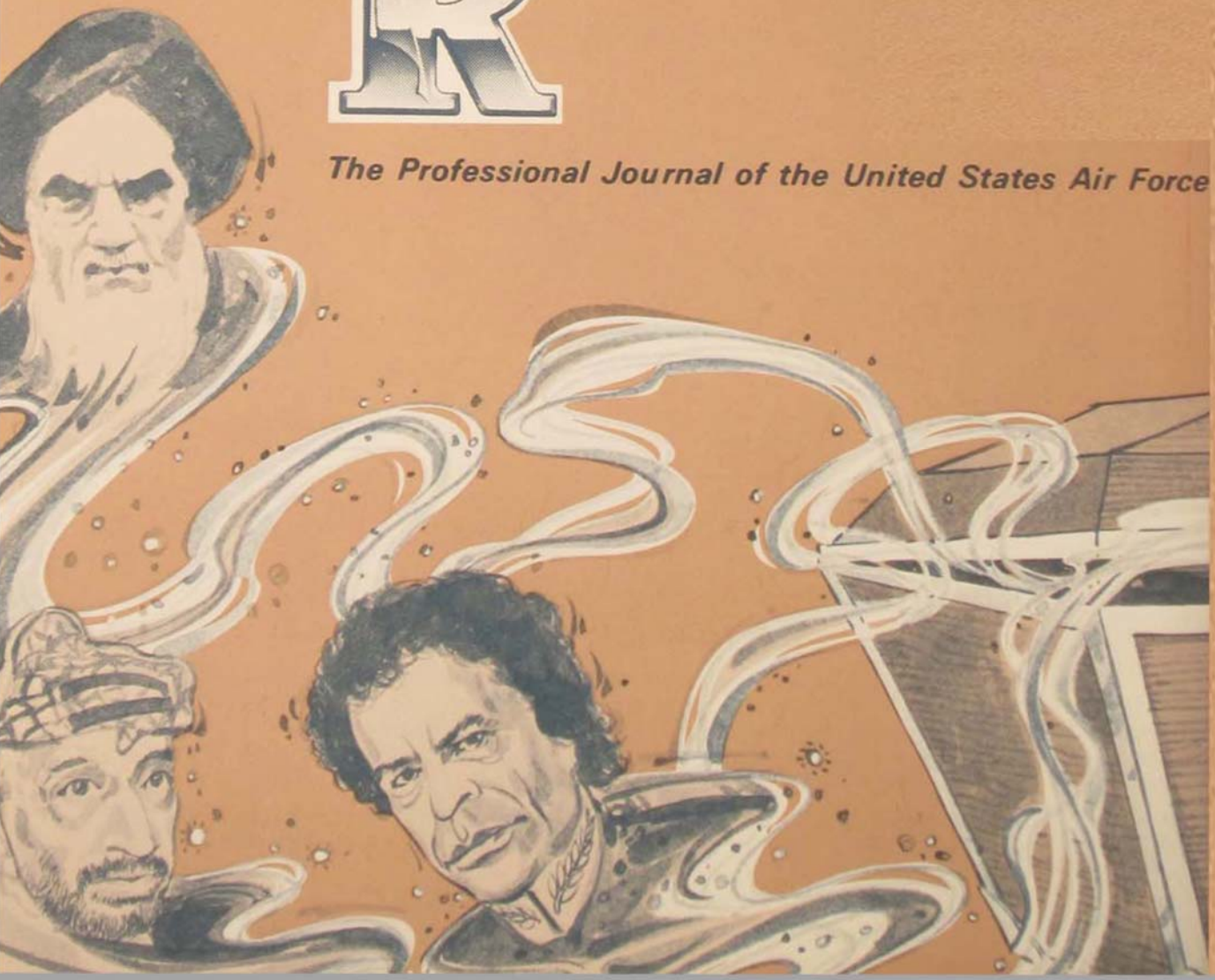

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